

WESTBROOK BOARD OF EDUCATION
EDUCATE, CHALLENGE, & INSPIRE

WESTBROOK BOARD OF EDUCATION Tuesday, April 12, 2022 @ 7:00 p.m. Regular Board of Education Meeting
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The Regular meeting of the Westbrook Board of Education will be held on Tuesday, April 12, 2022 at 7:00 p.m. in the WHS library. Members of the public who would like to view this meeting remotely, please access the link here:

Method 1

1. Visit <https://www.westbrookctschools.org/groups/5650>
2. Click the link provided at the time of the meeting.

Method 2

1. Navigate to <https://www.westbrookctschools.org>
2. Click "Departments"
3. Click "Westbrook Board of Education"
4. Click the link provided at the time of the meeting.

AGENDA

- I. CALL TO ORDER – 7:00 p.m.
- II. PLEDGE OF ALLEGIANCE
- III. BOARD OF EDUCATION ACKNOWLEDGMENTS
- IV. STUDENT REPRESENTATIVE REPORT – Andrew Livingstone
 - A. Introduction of new Student BOE representatives for 2022-2023 - Rising Senior Delaney Belcourt
- V. PUBLIC COMMENT Re: Matters of General Concern & Agenda Items

<p>Board welcomes public participation and asks that speakers <u>sign in</u> to be recognized and limit their comments to a reasonable amount of time (3 minutes). Speakers may offer objective comments about specific agenda items or school operations and programs that concern them. To protect the impartiality of the Board, we will not permit any negative or positive comments about the Board of Education, specific personnel and students. Such comments should be brought to school administration. The Board will not respond to comments made during public comment. When appropriate, district administration will follow-up at a later point in time.</p>
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<p>For the April 12, 2022 BOE meeting, remote Public Comment will be available as we transition back to in person meetings. A Google Meet link will be posted on the website for remote audience members who would like an opportunity to speak during the Public Comment portion of the meeting. In the interest of creating the best remote meeting experience for all participating parties, we would ask that you please keep your phone on mute until such time when the chair calls for Public Comment. Please continue to keep your phone on mute unless you are requesting to be recognized by the Chair to make a comment. Once you have been recognized by the Chair to make your comment, please adhere to the previously mentioned guidelines</p>
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- VI. ADMINISTRATOR(S) COMMENTS:

- VII. NEW BUSINESS: Vote Anticipated
 - A. Healthy Food Certification 2022-2023
 - B. Oxford Academy - Light on Westbrook Fundraising Contribution Acceptance
 - C. Introduction and Curriculum Update – Angelo Saba – Robotics and Automated Systems I Curriculum – **Enclosure 1**
- VIII. SUPERINTENDENT’S REPORT
 - A. Enrollment – April 2022 – **Enclosure 2**
 - B. Portrait of a Graduate Update
- IX. OLD BUSINESS: Vote anticipated
 - A. Policy 1000 – Non-Discrimination – Community/Board Operation
 - B. Policy 4000 – Non-Discrimination – Personnel
 - C. Policy 5000 – Non-Discrimination – Students
 - D. Recommendation to rescind Policy 0521 – Non-Discrimination and replace with Policy 1000, Policy 4000, and Policy 5000
 - E. COVID Related Policies: 4118.237, 4218.237, 5141.8 – Face mask coverings – Recommendation to Rescind (per WPS Policy 9311)
 - F. Policy 9030 – Democratic Principles – (Revised)
 - G. Policy 9160 – Student Representatives on the Board of Education – (Revised)
 - H. Policy 9321 – Time, Place and Notification of Meetings – (Revised)
- X. CONSENT AGENDA – Vote Anticipated
 - A. Approval of Minutes:
 - 1. Regular meeting of March 08, 2022 - **Enclosure 3**
 - 2. Special meeting of March 24, 2022 – **Enclosure 4**
- XI. FINANCIAL REPORTS - **Enclosure 5**
 - A. Review of Check Listing
 - B. Budget Narrative/Review of Expenditure Report
 - C. Line Item Transfer
 - D. Insurance Report
- XII. BOARD COMMITTEE REPORTS
 - A. Policy– K. Walker
 - B. Long Range Planning – D. Perreault
 - C. Fiscal & Budget – Z. Hayden
 - D. Teaching & Learning – D. Perreault
 - E. Communications & Marketing – M. Luft
 - F. Negotiations – S. Greaves
 - G. Town Energy Ad Hoc Committee – L. Wysocki
 - H. LEARN
 - I. PTSO Representatives - M. Luft (Daisy), Z. Hayden (WMS), K. Walker (WHS)
 - J. BOE Ad Hoc Calendar Committee – Z. Hayden – **Enclosure 6**
- XIII. BOARD OF EDUCATION GOALS
 - A. Bills voted out of the Education Committee 3/31 CAFE webinar – **Enclosure 7**
 - B. BOE Retreat and Self-Evaluation
- XIV. PERSONNEL
 - A. Professional Resignation(s):
 - 1. Rosemary Unan – Special Education Teacher

XV. EXECUTIVE SESSION:

A. Contract Negotiations: Evaluation of Legal Services

XVI. PUBLIC SESSION: Vote Anticipated

A. Legal Services

XVII. ADJOURN

**Westbrook Public Schools
Science / Technology Curriculum
Robotics and Automated Systems 1, Grades: 9-12**

Subject(s)	Science / Technology
Grade/Course	Grades 9 - 12, Robotics and Automated Systems 1
Unit of Study	Unit 1: The Engineering Outlook
Pacing	2 - 2.5 weeks

CT State Standards

What are the goals of this unit?

Priority/Focus Standards:

HS-ETS1-1. Analyze a major global challenge to specify qualitative and quantitative criteria and constraints for solutions that account for societal needs and wants.

HS-ETS1-3 Engineering Design Evaluate a solution to a complex real-world problem based on prioritized criteria and trade-offs that account for a range of constraints, including cost, safety, reliability, and aesthetics as well as possible social, cultural, and environmental impacts.

NGSS Science and Engineering Practices

Currently there are only 4 NGSS Engineering Standards. The following 7 "Science and Engineering Practices" are a foundational component of NGSS and are present throughout this course. The practices that are prominent in this unit are bolded.

- 1. Asking questions and defining problems.**
- 2. Developing and using models.**
- 3. Planning & carrying out investigations.**
- 4. Analyzing and interpreting data.**

5. Using mathematics and computational thinking.
6. Constructing explanations and designing solutions.
7. Engaging in argument from evidence.
8. Obtaining, evaluating, and communicating information.

Correspondence to CT Core Standards

What are the goals of this unit?

Reading

RST.11-12.7 Integrate and evaluate multiple sources of information presented in diverse formats and media (e.g., quantitative data, video, multimedia) in order to address a question or solve a problem. (HS-ETS1-1)

RST.11-12.9 Synthesize information from a range of sources (e.g., texts, experiments, simulations) into a coherent understanding of a process, phenomenon, or concept, resolving conflicting information when possible. (HS-ETS1-1)

CCSS.ELA-LITERACY.RST.9-10.7

Translate quantitative or technical information expressed in words in a text into visual form (e.g., a table or chart) and translate information expressed visually or mathematically (e.g., in an equation) into words.

Math

MP.2 Reason abstractly and quantitatively. (HS-ETS1-1)

Unwrapped Priority Standards

Skills/Suggested Outcomes <i>What must students do?</i>	Concepts <i>What must students know?</i>
1. Students need to collaborate to define engineering and explain the role of engineers.	1. Students should understand that engineers are problem solvers. They should see engineering as an ongoing

2. Students need to choose the best drone available for use in creating real estate advertisements.
3. Students must prepare and deliver a formal presentation regarding an engineering discipline of their choice.
4. Students will compare and contrast AI and Robotics.

process that utilizes math and science to improve the world around us.

2. Students must evaluate the various attributes of a variety of drones. They should realize that “best” is a subjective term, and must be able to define the “best” drone in a quantifiable way.
3. Students must see the importance of accurate and effective communication between engineers and clients, as well as amongst engineers.
4. Robots are machines that are designed to carry out a task, either autonomously or through human control. Artificial Intelligence is the simulation of human intelligence process by machines including: learning, self correcting, and reasoning

Essential Questions

What essential questions will be considered?

1. What makes an engineer and engineer?
2. To what extent are “soft skills” essential for engineers
3. What role does the “engineering notebook” play in the engineering process
4. To what degree must engineers collaborate throughout the engineering process?

Corresponding Big Ideas

What understandings are desired?

1. Engineering is a mindset
2. Engineering is the process of thinking critically to solve problems and improve the world around us.
3. Engineers employ math and science to create solutions that solve specific problems
4. Engineers regularly need to communicate with clients and colleagues

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|--|---|
| | 5. Engineers must work together to plan, delegate, brief, execute, debrief. |
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Resources

Student Technology Integration and Correspondence to ISTE Standards when Applicable:

Standard 1.6: Students communicate clearly and express themselves creatively for a variety of purposes using the platforms, tools, styles, formats and digital media appropriate to their goals.

Informational Texts:

- **Media:** This course utilizes the STEMI Platform for instructional videos and materials. Below is the link:
 - STEMI Platform
 - On the STEMI platform, students will have access to both the “ebook” as well as the “courseware”
 - The courseware is often used in class for class discussion / lecture purposes.
 - The course ware functions like a prezzi, and has numerous videos / external links embedded in it which correspond with the content being presented.
 - The ebook contains the same information and is better used as a reference for students and teachers.

Vocabulary/Terminology

Vocabulary/Terminology with Definitions:

Engineer: a critical thinker actively seeking to solve real world problems by employing science and math.

Drone: un-manned aerial vehicle.

Public speaking: less formal, not necessarily backed by fact. Often entertaining.

Formal Presentation: very structured and to the point. Organized to convey as much information as possible. Speaker maintains professionalism at all times.

Electrical Engineer: Electrical engineering is an engineering discipline concerned with the study, design, and application of equipment, devices, and systems which use electricity, electronics, and electromagnetism.

Aerospace Engineer: Aerospace engineering is the primary field of engineering concerned with the development of aircraft and spacecraft. It has two major and overlapping branches: aeronautical engineering and astronautical engineering.

Mechanical Engineer: Mechanical engineering is one of the broadest engineering disciplines. Mechanical engineers design, develop, build, and test. They deal with anything that moves, from components to machines to the human body.

Civil Engineer: Civil engineering is a professional engineering discipline that deals with the design, construction, and maintenance of the physical and naturally built environment, including public works such as roads, bridges, canals, dams, airports, sewage systems, pipelines, structural components of buildings, and railways.

Software Engineer: Software engineers design and create computer systems and applications to solve real-world problems.

“Soft Skills”: skills such as professional conduct, critical thinking, teamwork, communication, formal presentation.

Robotics: the design, construction, control, operation, and use of robots and associated computer systems.

Artificial Intelligence: the simulation of human intelligence processes by machines including learning, reasoning, self-correction.

Non-autonomous Robot: primarily controlled by a human, simple code.

Autonomous Robot: stand-alone system, complete with its own computer controller to perform a task by itself. More complex code and sensors.

Artificial Narrow Intelligence (ANI) or “Weak AI”: AI that specializes in one area (current technology).

Artificial General Intelligence (AGI) or “Strong AI”: AI that can perform any intellectual task a human being can (future technology).

Artificial Super-Intelligence (ASI): AI intellect that is much smarter than the human brain in practically every aspect (future technology).

Programming Language: "code" language used by programmers to design software and program robots.

Machine Language: the binary language that directly communicates with the computer / robot.

First Law of Robotics: a robot may not injure a human being, or, through inaction, allow a human being to come to harm.

Second Law of Robotics: a robot must obey the orders given to it by human beings except where such orders would conflict with the first law.

Third Law of Robotics: a robot must protect its own existence as long as such protection does not conflict with the first or second laws.

Zeroth (0th, or 4th Law): a robot may not harm humanity, or by inaction, allow humanity to come to harm.

Subsystems: smaller systems that collectively make up a robotic or automated system.

Sensors: convert environmental information into data used by the controller.

Actuator: converts data / electrical information into physical action.

Controller: computing sensor of the robot.

Chassis: arms, wheels frame.

Microprocessor: high performance processor on one chip. Faster than microcontroller, allows custom applications. Ex. Raspberry Pi.

Microcontroller: single chip that embeds multiple functions. Contains a processor, RAM, storage, inputs/ outputs. Ex: arduino.

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Single and Variable Speed Motors: high RPM application can control speed with pulse width modulation.

Pulse Width Modulation (PWM): pulsing an electrical signal to control the speed of a motor.

Stepper Motor: electrical pulses rotate the motor in preset increments (steep angle). Great for low to medium acceleration, high holding torque.

Servo Motor: gearing and controller create high torque, precision angular control over limited range.

Inputs: the raw data that is processed to produce output. Outputs any useful information or data delivered by the information system or decision support system to the user. Output can take virtually any form, including print, display, audio, microforms, CD-ROMs or DVDs, and Web-based documents.

Cost-benefit analysis: sometimes also called benefit-cost analysis, is a systematic approach to estimating the strengths and weaknesses of alternatives.

Learning Plan

Overview and Key Learning Events and Instruction Per Week

Learning Tasks Per Week (Including Instructional Strategies)

Week 1: This course assumes no prior knowledge about robotics or engineering as a discipline. Students will conduct a Baseline survey as a means to gauge student knowledge and establish a starting point. As a class we will use the “courseware” provided by STEMI to meet a number of actual engineers, and examine the common traits they possess.

- Baseline Survey.docx

Students will work in pairs to conduct the “Engineering intro research project.” The purpose of this project is to promote teamwork / collaboration, facilitate a technical discussion on drones, and require students to quantify and analyze differences amongst the subsystems of multiple drones. Class discussion will follow, although this could also be used as a topic for formal presentation if desired.

- [Engineering into Research Project Student Edition.pdf](#)

Week 2: Students will use the courseware as well as their own outside research to study an engineering discipline of their choice. They will need to deliver a formal presentation on their discipline, explaining the educational requirements, job prospects, skills required etc of their particular discipline. As a class we will also view a variety of presentations to develop a strong understanding of what a formal presentation is, as well as what behaviors should be avoided while delivering a formal presentation.

Week 3: As a class we will use the “courseware” provided by STEMI to compare robotics and artificial intelligence. We will focus our attention on the various subsystems that make up an automated system. We will also apply this understanding by “programming” a human being to walk across the room and pick up a glass of water. This will promote discussion of basic inputs and outputs, as well as facilitate a discussion on the programming process and procedures that students will be employing throughout the course. Students will then wrap up this unit with the “Unit 1 Knowledge Check”

- [Knowledge Check Unit 1.pdf](#)

Interdisciplinary / Real World / Global Connections

This course is designed to make as many connections to the real world as possible.

- Students choose a drone for a real estate commercial.
- Students view personal biographical videos of real world engineers.
- Students will deliver formal presentations discussing the requirements / benefits of entering into an engineering career.

Differentiation

Advanced: In this unit, students are encouraged to explore their interests beyond the provided curriculum. For example, older students can use the formal presentation assignment as a way to explore potential colleges they may be applying to.

Struggling: The access that students have to the courseware will allow students to work at a pace that best fits them.

Westbrook High School Learning Expectations

The Westbrook High School student will meet expectations by...

- ☒ Reading a wide range of texts effectively
- ☒ Writing effectively for a variety of purposes
- ☒ Presenting ideas accurately with the support of engaging media
- ☒ Thinking critically to solve problems and reach well reasoned judgments
- ☒ Working responsibly and collaboratively

Assessments

Include an overview of authentic assessments

Formative Assessments and Corresponding Rubrics/Checklists when Applicable:

- Formal Presentation, with use of the WHS School wide Speaking and Presentation Rubric
- Westbrook High School Speaking and Presenting Rubric.pdf

Summative Assessments and Corresponding Rubrics/Checklists when Applicable:

- Unit 1 Knowledge Check and corresponding rubric
- Unit 1 Knowledge Check Rubric.pdf

Westbrook Public Schools
Science / Technology Curriculum
Robotics and Automated Systems 1, Grades: 9-12

Subject(s)	Science / Technology
Grade/Course	Grades 9 - 12, Robotics and Automated Systems 1
Unit of Study	Unit 2: Robot Assembly and Calibration
Pacing	5 - 6 weeks

CT State Standards

What are the goals of this unit?

Priority/Focus Standards:

HS-ETS1-2: Design a solution to a complex real-world problem by breaking it down into smaller, more manageable problems that can be solved through engineering

NGSS Science and Engineering Practices

Currently there are only 4 NGSS Engineering Standards. The following 7 "Science and Engineering Practices" are a foundational component of NGSS and are present throughout this course. The practices that are prominent in this unit are bolded.

- 1. Asking questions and defining problems.**
- 2. Developing and using models.**
- 3. Planning & carrying out investigations.**
4. Analyzing and interpreting data.
5. Using mathematics and computational thinking.
- 6. Constructing explanations and designing solutions.**
- 7. Engaging in argument from evidence.**

8. Obtaining, evaluating, and communicating information.

Correspondence to CT Core Standards
What are the goals of this unit?

CCSS.ELA-LITERACY.RST.11-12.2: Determine the central ideas or conclusions of a text; summarize complex concepts, processes, or information presented in a text by paraphrasing them in simpler but still accurate terms.

CCSS.ELA-LITERACY.RST.11-12.3: Follow precisely a complex multistep procedure when carrying out experiments, taking measurements, or performing technical tasks; analyze the specific results based on explanations in the text.

CCSS.ELA-LITERACY.RST.11-12.7: Integrate and evaluate multiple sources of information presented in diverse formats and media (e.g., quantitative data, video, multimedia) in order to address a question or solve a problem.

CCSS.ELA-LITERACY.SL.11-12.4: Present information, findings, and supporting evidence, conveying a clear and distinct perspective, such that listeners can follow the line of reasoning, alternative or opposing perspectives are addressed, and the organization, development, substance, and style are appropriate to purpose, audience, and a range of formal and informal tasks.

CCSS.ELA-LITERACY.SL.11-12.5: Make strategic use of digital media (e.g., textual, graphical, audio, visual, and interactive elements) in presentations to enhance understanding of findings, reasoning, and evidence and to add interest.

Unwrapped Priority Standards

Skills/Suggested Outcomes
What must students do?

1. Students must successfully assemble their hexapod robot.
2. Students must test and calibrate their hexapod robot.
3. Students must keep an engineering notebook, and then

Concepts
What must students know?

1. Students must develop an understanding of the mechanical and electrical systems of their hexapod robot.
2. Problems that students encounter could be mechanical or electrical in nature.

deliver a formal presentation discussing their build.

3. Engineers carefully document their work in order to promote efficiency and ensure repeatability. The notebooks are also helpful in troubleshooting.

Essential Questions

What essential questions will be considered?

1. What are the major subsystems of our hexapod robot?
2. To what extent is an engineering notebook essential to the engineering process?
3. To what extent are models useful in engineering and design?
4. To what extent does organization play a crucial role in the success or failure of a design project?

Corresponding Big Ideas

What understandings are desired?

1. Our hexapod has many subsystems. In this unit, we will study the mechanical, the electrical, and calibration systems.
2. The engineering notebook documents the build process, and is an essential tool in designing our product. If kept accurately, it will ensure repeatability as well as aid in the troubleshooting process.
3. Models allow scientists and engineers to see objects, concepts, systems, etc that are otherwise difficult to see.
4. Engineers must be as organized as possible at all times. This includes keeping track of parts / tools, as well as keeping records of the engineering process.

Resources

Student Technology Integration and Correspondence to ISTE Standards when Applicable:

Standard 1.1: Students leverage technology to take an active role in choosing, achieving, and demonstrating competency in their learning goals, informed by the learning sciences.

- **Media:** This course utilizes the STEMI Platform for instructional videos and materials. Below is the link:
 - **STEMI Platform**
 - On the STEMI platform, students will have access to both the “ebook” as well as the “courseware”
 - The courseware is often used in class for class discussion / lecture purposes.
 - The course ware functions like a prezzi, and has numerous videos / external links embedded in it which correspond with the content being presented.
 - The ebook contains the same information and is better used as a reference for students and teachers.

Vocabulary/Terminology

Vocabulary/Terminology with Definitions:

PCB (Printed Circuit Board): this is the microcontroller for our hexapod.

Bone Link: This is the name for the middle part of our robot's leg.

Foot Link: this is the name for the bottom part of our robot's leg.

Hips: this is the name for the top part of our robot's leg.

Top / Bottom Plates: these two serve as the “chassis” for our robot. The hips of our robot are mounted directly to these plates.

“Servo Horns”: this is a part used in our robot which mates the drive shaft of the servo motor to the top plate.

Touch Sensors: located on the PCB, serve as buttons that the user can use to operate various functions of the hexapod.

Pre-calibration Mode: indicated on the hexapod with all LED's being red. This mode initializes the calibration phase, but must be exited out prior to calibration.

Calibrate: adjust or fine tune a component of our hexapod so that it functions as designed.

LED: Light Emitting Diodes, common “light bulb” used in electronics.

Parallel: of lines, planes, surfaces, or objects) side by side and having the same distance continuously between them.

Perpendicular: at an angle of 90° to a given line, plane, or surface.

Learning Plan

Overview and Key Learning Events and Instruction Per Week

Learning Tasks Per Week (Including Instructional Strategies)

Weeks 1-2: Mechanical Integration Students will need to first assemble the structure of the robot. Our hexapod has 6 legs, each of which has 3 components. Students have a variety of resources that they can access for the build process. There is a set of text based directions, and there are videos which guide students step by step. There are also 3d models that students can open and view in 360 degrees.

All materials are located on the “courseware” and “classroom guide” provided in the STEMI Platform

Example of Text Instructions:

- [Sample Text Instructions.pdf](#)

Example of 3D Model:

- https://sketchfab.com/3d-models/assembly-bone-link-2b2c4c6332bf42febc2d34c582d05383?utm_medium=embed&utm_source=website&utm_campaign=share-popup

Students are expected to keep an engineering notebook which chronicles the build process.

Presentation for use in introducing Engineering Notebooks:

- [Engineering Notebook Presentation.pdf](#)

Weeks 3-4: Electrical Integration Students will now need to connect the 18 servo motors to the control module. This process can be challenging for students, and require a good deal of trouble shooting. Students will quickly realize how successful they are when

they begin the calibration phase. Students need to fine tune the position of each servo motor in order to ensure that the hexapod will be successfully mobile. It is evident if motors are connected incorrectly when they are inoperative, or are actuating at the incorrect time.

Once again, all materials are located within the STEMI Platform. Modules 2-4 cover the electrical integration, system tests & troubleshooting, and calibration and operation respectively.

A sample of the video directions:

- <https://www.youtube.com/watch?v=gltKluhLhAY>

Weeks 5-6: After the process of building / calibrating the robots etc, it is nice to have a little time to test them out. Students will have a chance to build a race circuit for their hexapods.

Students will also conduct a formal presentation which chronicles the build of the robot. They should use their engineering notebook as a guide for this. Attached is the rubric for this. Please note that students are assessed on the process, group effort, and organization

- [Rubric Assembly and Calibration.pdf](#)

Interdisciplinary / Real World / Global Connections

- This entire process is one continuous troubleshooting experience. The STEMI curriculum is very clear that teachers should not be guiding students in this process unless absolutely necessary. The course is designed to force students to work as a team to identify a problem, devise a strategy to solve the problem, execute, and reflect.

Differentiation

Advanced: Advanced students can complete the build without the video directions. I also have utilized advanced students as assistants to help other groups / students that may be struggling. Advanced students can also get started on their mobile app development.

Struggling: Students have access to the video directions which will walk the student through every step of the build. Teacher facilitation as a last resort only.

Westbrook High School Learning Expectations

The Westbrook High School student will meet expectations by...

- ☐ Reading a wide range of texts effectively
- ☐ Writing effectively for a variety of purposes
- ☒ Presenting ideas accurately with the support of engaging media
- ☒ Thinking critically to solve problems and reach well reasoned judgments
- ☒ Working responsibly and collaboratively

Assessments

Include an overview of authentic assessments

Formative Assessments and Corresponding Rubrics/Checklists when Applicable:

- Students receive daily participation grades on a 3 point scale. In order to receive all 3 points, students need to be on time, actively participate, and clean up their station appropriately.

Summative Assessments and Corresponding Rubrics/Checklists when Applicable:

- Students are graded on their build and calibration with the rubric attached below:
[assembly and calibration rubric.pdf](#)

Westbrook Public Schools
Science / Technology Curriculum
Class: Robotics and Automated Systems 1 Grade(s) 9-12

Subject(s)	Science / Technology
Grade/Course	Grades 9 - 12, Robotics and Automated Systems 1
Unit of Study	Unit 3: Foundational Concepts
Pacing	3 weeks

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CT State Standards <i>What are the goals of this unit?</i>	
<p>Priority/Focus Standards:</p> <p>HS-ETS1-3. Evaluate a solution to a complex real-world problem based on prioritized criteria and trade-offs that account for a range of constraints, including cost, safety, reliability, and aesthetics as well as possible social, cultural, and environmental impacts</p> <p>HS-ETS1-1. Analyze a major global challenge to specify qualitative and quantitative criteria and constraints for solutions that account for societal needs and wants.</p> <p>NGSS Science and Engineering Practices <i>Currently there are only 4 NGSS Engineering Standards. The following 7 "Science and Engineering Practices" are a foundational component of NGSS and are present throughout this course. The practices that are prominent in this unit are bolded.</i></p> <ol style="list-style-type: none"> 1. Asking questions and defining problems. 2. Developing and using models. 3. Planning & carrying out investigations. 4. Analyzing and interpreting data. 	

5. Using mathematics and computational thinking.
6. Constructing explanations and designing solutions.
7. Engaging in argument from evidence.
8. Obtaining, evaluating, and communicating information.

Correspondence to CT Core Standards

What are the goals of this unit?

Reading

CCSS.ELA-LITERACY.RST.11-12.1

Cite specific textual evidence to support analysis of science and technical texts, attending to important distinctions the author makes and to any gaps or inconsistencies in the account.

CCSS.ELA-LITERACY.RST.11-12.2

Determine the central ideas or conclusions of a text; summarize complex concepts, processes, or information presented in a text by paraphrasing them in simpler but still accurate terms.

CCSS.ELA-LITERACY.RST.11-12.3

Follow precisely a complex multistep procedure when carrying out experiments, taking measurements, or performing technical tasks; analyze the specific results based on explanations in the text.

Unwrapped Priority Standards

Skills/Suggested Outcomes
What must students do?

Concepts
What must students know?

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<ol style="list-style-type: none"> 1. Students will write and follow engineering requirements 2. Students will identify inputs and outputs within a system or subsystem. 3. Students will analyze cost and time constraints of a proposed project to evaluate if it is feasible or not 	<ol style="list-style-type: none"> 1. Engineering requirements are a legally binding contract between the design team and the customer. They must be unambiguous 2. A major focus of engineering is the interface between inputs and outputs. The output of one system / subsystem is often the input of another system or subsystem 3. many factors other than technical skill, resources, knowledge go into an engineering project
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Essential Questions <i>What essential questions will be considered?</i>	Corresponding Big Ideas <i>What understandings are desired?</i>
<ol style="list-style-type: none"> 1. To what extent are Engineers bound by the requests of clients / customers? 2. To what degree are interfaces crucial to the design and ultimate success of an engineering project? 3. To what extent do outside factors (factors other than technical skill, resources, knowledge) shape and or limit an engineering project or a project's scope? 	<ol style="list-style-type: none"> 1. Engineers and Customers/ clients mutually meet multiple times to discuss and approve designs, design progress, product success. 2. Interfaces are crucial to the design and success of an engineering project as they are the transfer points of data, motion, etc. Engineers from multiple backgrounds often work together on interfaces. 3. In a business setting, engineers must consider time and

financial resources / constraints when designing and or building a project.

Resources

Student Technology Integration and Correspondence to ISTE Standards when Applicable:

1.3 Knowledge Constructor: Students critically curate a variety of resources using digital tools to construct knowledge, produce creative artifacts and make meaningful learning experiences for themselves and others

- 1.3d Students build knowledge by actively exploring real-world issues and problems, developing ideas and theories and pursuing answers and solutions.

1.7 Global Collaborator Students use digital tools to broaden their perspectives and enrich their learning by collaborating with others and working effectively in teams locally and globally.

- 1.7 C Students contribute constructively to project teams, assuming various roles and responsibilities to work effectively toward a common goal.

Informational Texts:

- **Media:** This course utilizes the STEMI Platform for instructional videos and materials. Below is the link:
 - STEMI Platform
 - On the STEMI platform, students will have access to both the “ebook” as well as the “courseware”
 - The courseware is often used in class for class discussion / lecture purposes.
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Vocabulary/Terminology

Vocabulary/Terminology with Definitions:

Engineering Requirement: a statement that identifies an operational, functional, or design characteristic / constraint of a system, subsystem, or component.

System Specification: serves as a contract between engineer and client. Contains all Engineering requirements.

Unambiguous: not vague, very concise and clear.

Verifiable: testable / specifically quantifiable, etc.

“Shall:” this word specifically states characteristics etc of an engineering requirement. It is often used in writing requirements.

System Engineering Process: a visual tool which illustrates the standardized means of structuring the product development process

Customer Requirements: engineering requirements that may come from a customer, regulatory body, or internally generated by a company through market research.

System Requirements Review (SSR): a contractual formal presentation (aka “milestone review”) delivered by an engineering company to the customer.

Preliminary Design Review (PDR): AKA “milestone review,” delivered by an engineering company to the customer.

Critical Design Review (CDR) AKA “Milestone Review” Another formal presentation by the engineering company. This is the last chance for the customer to request any design changes. Held when the design effort is approximately 80% complete.

Test Readiness Review (TRR): AKA “milestone review. Conducted for the entire program team (customer, contractor, 2nd tier suppliers. All parties must agree that the product is ready for testing and consent to proceeding to the test phase.

System Verification Review (SVR): another “milestone review,” delivered by the engineering company to the customer. These are formal tests conducted for the customer to ensure the engineering company receives payment.

Final Product: Product that has met all requirements and passed all tests. Delivered to the customer on a delivery schedule dictated by the contract.

Workflow: What engineers are actually doing throughout the duration of the project.

Trade Study: a methodical, well-documented and data-driven way to make objective design decisions.

Best Requirement Writing Practices: A set of guidelines to follow which outline practices for writing engineering requirements that are generally agreed upon as effective and efficient.

Input: any data, signal, power, or physical stimuli provided to a component / subsystem from the user, environment, or other component / system.

Output: any data, signal, power, or physical stimuli provided by a component / subsystem to the user, environment, or other component system.

Interface: any point where an input or output is exchanged, or components / subsystems / systems interact.

Heads-up Display (HUD): a transparent display at the pilot / driver's eye level with important flight parameters projected on it.

Learning Plan

Overview and Key Learning Events and Instruction Per Week

Week 1, Engineering Requirements Overview: A combination of student inquiry and teacher led discussion will present students with a general overview of Engineering requirements. Students will use the courseware and or ebook provided by STEMI to explore Engineering requirements in small groups.

Students will then conduct a requirement writing exercise to practice writing and following engineering requirements.

- Requirement Writing Exercise

Week 2, Build me a House!: Students will be provided a set of requirements to draw - and then construct - a house (see below). They can work in their groups to create this, and will be encouraged to meet with the "client" at various points to clarify the requirements.

- Build me a house!

Week 3, Inputs / Outputs / Interface: A combination of student inquiry and teacher led discussion will present students with a general overview of Inputs / Outputs / Interface. Students will use the courseware and or ebook provided by STEMI to explore Engineering requirements in small groups.

Students will then complete the interface control project (see below).

- [Interface Control Project Student Template.docx](#)

The Unit 3 Knowledge Check will wrap up the unit. See assignment and rubric at end of document.

Interdisciplinary / Real World / Global Connections

- This unit introduces students to concepts that apply to the real world.
 - For example students have to consider their ability / skills / and performance in relation to the expectations placed on them from outside entities.
 - Students are to evaluate the cost of a project, the amount of time they have to complete a project, as well as their current abilities. This approach is not necessarily restricted to the engineering design process, as it applies to all facets of life.

Differentiation

Advanced:

- Advanced students are always encouraged to assist struggling classmates.
- In addition to this, advanced students will be given the task of presenting on the topic of “business considerations.” The STEMI platform includes a “courseware” for students to study (see downloaded version below) which challenges students to consider financial and time constraints.
- Their ultimate goal is to design a heads up display that meets the requirements outlined in this ebook:
- [Business Consideration ebook.pdf](#)

Struggling:

- Contained within the teacher's guide to the interface control project are multiple "tiers" of student handouts.
- Struggling students can be given a template that has already been started to ensure that they understand the assignment, and that they can see concrete examples of how inputs / outputs interface. See below
- [Teacher Guide Interface Project.pdf](#)

Westbrook High School Learning Expectations

The Westbrook High School student will meet expectations by...

- ☐ Reading a wide range of texts effectively
- ☐ Writing effectively for a variety of purposes
- ☐ Presenting ideas accurately with the support of engaging media
- ☐ Thinking critically to solve problems and reach well reasoned judgments
- ☐ Working responsibly and collaboratively

Assessments

Include an overview of authentic assessments

Formative Assessments and Corresponding Rubrics/Checklists when Applicable:

- **Interface Control Project:**
- [Interface Control Project Student Template.docx](#)

Summative Assessments and Corresponding Rubrics/Checklists when Applicable:

- **Unit 3 Knowledge Check:**
- [Unit 3 Knowledge Check.pdf](#)
- [Unit 3 Knowledge Check Rubric.pdf](#)

Westbrook Public Schools
Science / Technology Curriculum
Class: Robotics and Automated Systems 1 Grade(s) 9-12

Subject(s)	Science / Technology
Grade/Course	Grades 9 - 12, Robotics and Automated Systems
Unit of Study	Unit 4: Mobile App Development
Pacing	4 Weeks

CT State Standards <i>What are the goals of this unit?</i>	
Priority/Focus Standards: HS-ETS1-1. Analyze a major global challenge to specify qualitative and quantitative criteria and constraints for solutions that account for societal needs and wants. HS-ETS1-2: Design a solution to a complex real-world problem by breaking it down into smaller, more manageable problems that can be solved through engineering HS-ETS1-3 Engineering Design Evaluate a solution to a complex real-world problem based on prioritized criteria and trade-offs that account for a range of constraints, including cost, safety, reliability, and aesthetics as well as possible social, cultural, and environmental impacts. NGSS Science and Engineering Practices <i>Currently there are only 4 NGSS Engineering Standards. The following 7 "Science and Engineering Practices" are a foundational component of NGSS and are present throughout this course. The practices that are prominent in this unit are bolded.</i> 1. Asking questions and defining problems.	

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

Correspondence to CT Core Standards

What are the goals of this unit?

Reading

CCSS.ELA-LITERACY.RST.11-12.3: Follow precisely a complex multistep procedure when carrying out experiments, taking measurements, or performing technical tasks; analyze the specific results based on explanations in the text.

CCSS.ELA-LITERACY.RST.11-12.4: Determine the meaning of symbols, key terms, and other domain-specific words and phrases as they are used in a specific scientific or technical context relevant to *grades 11-12 texts and topics*.

CCSS.ELA-LITERACY.RST.11-12.7: Integrate and evaluate multiple sources of information presented in diverse formats and media (e.g., quantitative data, video, multimedia) in order to address a question or solve a problem.

CCSS.ELA-LITERACY.RST.11-12.9: Synthesize information from a range of sources (e.g., texts, experiments, simulations) into a coherent understanding of a process, phenomenon, or concept, resolving conflicting information when possible.

Unwrapped Priority Standards

Skills/Suggested Outcomes
What must students do?

Concepts
What must students know?

<ol style="list-style-type: none"> 1. Students must download and incorporate provided materials into their program 2. Students must follow a multi-step set of directions to create their program and application 3. Students must program their hexapod to meet a set of predetermined requirements. 4. Students must create a mobile app that is both functional and user friendly. 	<ol style="list-style-type: none"> 1. Students need to understand the steps involved with incorporating pre-made components into their programming work. 2. Students will learn the logical progression associated with programming, as well as the importance of self checking progress along the way. 3. Students will understand and employ programming logic. They will use a block coding approach to program their hexapod. 4. Students will draw upon their personal experiences to create an app that will successfully operate their hexapod while providing the user with an engaging and pleasing experience.
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Essential Questions <i>What essential questions will be considered?</i>	Corresponding Big Ideas <i>What understandings are desired?</i>
<ol style="list-style-type: none"> 1. Why is coding important and how does it apply to robotics? 2. What degree of importance should we place on the user experience when designing an application? 3. What advantages and limitations are there when approaching programming with the block coding method? 	<ol style="list-style-type: none"> 1. Coding is the language of computer software. Computer software is what weaves the components of a robot together (controller, mechanical parts, actuators and sensors). 2. Designers must place tremendous importance on the user experience when designing applications. If the App is visually unappealing, or difficult to navigate, our application will not be chosen for use. 3. Block coding is advantageous for beginner programmers in that it simplifies the process a bit. While there are no limitations per se, the programmer needs to either create

	new blocks or modify existing blocks to increase the scope of programming possibilities.
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Resources

Student Technology Integration and Correspondence to ISTE Standards when Applicable:

1.4 Innovative Designer: Students use a variety of technologies within a design process to identify and solve problems by creating new, useful or imaginative solutions.

- 1.4C Students develop, test and refine prototypes as part of a cyclical design process

1.5 Computational Thinker: Students develop and employ strategies for understanding and solving problems in ways that leverage the power of technological methods to develop and test solutions.

- 1.5C Students break problems into component parts, extract key information, and develop descriptive models to understand complex systems or facilitate problem-solving.

1.6 Creative Communicator: Students communicate clearly and express themselves creatively for a variety of purposes using the platforms, tools, styles, formats and digital media appropriate to their goals.

- 1.6B Students create original works or responsibly repurpose or remix digital resources into new creations.

Informational Texts:

- **Media:** This course utilizes the STEMI Platform for instructional videos and materials. Below is the link:

- STEMI Platform

- On the STEMI platform, students will have access to both the “ebook” as well as the “courseware”

- The courseware is often used in class for class discussion / lecture purposes.

- The course ware functions like a Prezi, and has numerous videos / external links embedded in it which correspond with the content being presented.

- The ebook contains the same information and is better used as a reference for students and teachers.

- Digital Materials for Student use with Mobile App development: AI Materials,

- Students also need to download the “MIT App Inventor” app.

Vocabulary/Terminology

Vocabulary/Terminology with Definitions:

Software: the programs and other operating information used by a computer.

Coding: Coding, sometimes called computer programming, is how we communicate with computers. Code tells a computer what actions to take, and writing code is like creating a set of instructions.

“Sandbox” The MIT Mobile APP that we will use is an example of a sandbox. It is a place where an app can be temporarily loaded and tested.

“Designer:” This is the tab within the MIT Mobile App which allows students to configure the user interface.

“Blocks:” This is the tab within the MIT Mobile APP which allows students to write their code.

Touchup Buttons: an action is taken when the button is released. Touchdown buttons: an action is taken when the button is pressed.

Variable: a “storage box” within a program that can store data. A variable’s contents can be modified by the user or by the program.

Conditional Statement: a line of code which tells a program to execute an action etc if a condition is met. For example: if (condition is met) (take this action).

Global Variable: variable that can be accessed by any function or method in the program. These are used when there is data that needs to be centrally stored, so it can be manipulated by many different methods. The global variable is initialized to a particular value.

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Local Variable: A variable within a method, only accessible to that method.

Static Variable: Initialized at the beginning of a program and never changed.

Block Coding: programming method that utilizes preset blocks rather than a text based approach. These blocks fit together similar to legos, helping new programmers to focus on the concept and logic of programming rather than other aspects of programming such as lexicon and syntax.

Programming Logic: Programming logic is a set of principles that delineates how elements should be arranged so a computer can perform specific tasks.

Accelerometer: An accelerometer is a sensor which can detect how the device, in our case an Android device, is oriented in 3-dimensional space and send that information to our Hexapod robot.

Learning Plan

Overview and Key Learning Events and Instruction Per Week

Week 1, MIT: APP Inventor Orientation and basic programming. Students will use the courseware and classroom guide in conjunction with teacher led discussion to become familiar with the MIT App inventor as well as some basic programming concepts. (See the courseware attached below)

The culminating activity for this first portion of the unit is the creation of a "sock counter." This assignment is outlined in the courseware, but essentially students need to make an app which will add and subtract with the click of a button. The counter will not drop below zero, and it must incorporate a number of images provided by the STEMI curriculum. The instructional videos provided by STEMI walk students through this as a practical application / introduction to programming with the MIT App inventor.

- [Intro MIT APP.pdf](#)

Weeks 2-3, Programming the Hexapod: This is the most complicated component of this course yet, especially if students do not have any prior experience. It is multi-faceted, as students must program the robot and create a user interface that is both visually appealing and functional. In my experience, some students require much more time than others. There are instructional videos which provide students with a step by step guide to this.

The assessment and corresponding rubric for this assignment are posted below:

- [App Development Knowledge Check Rubric.pdf](#)
- [App Development Knowledge Check Rubric.pdf](#)

Week 4: APP Demonstration / Modification: Once students complete their app they are encouraged to spend a little time demonstrating their app and maneuvering their robot around. They are also highly encouraged to go into the code blocks and modify the attributes of the preset blocks. In particular, students are encouraged to change the speed attributes of their robot's walk functions. This is a great way to reinforce the importance of using variables in coding, and help students see how a programmer can take another designer's program and modify it to fit their needs.

End of Unit Presentation: [Unit 4 End of Unit Presentation Rubric.pdf](#)

Interdisciplinary / Real World / Global Connections

- Students are developing hard technical skills in this unit that can apply directly to emerging job markets such as coding and mobile app development.
- Given the experience that students have using mobile applications, they are easily able to draw upon their experiences when designing a user friendly app.
- Students are weaving together a myriad of skills from multiple disciplines including computer science, mechanics, mathematics, logic, as well as soft skills such as collaboration and communication.

Differentiation

Advanced:

- Students that master the sock counter app quickly are encouraged to move on to the hexapod programming portion of the class.
- Advanced students are also encouraged to develop an app of their own. In the past I have suggested a "color wheel" app

which will take the three primary colors and mix any two of them, displaying the resulting color on screen. This is a fairly simple app, but there is no guidance in the course material for this app.

- Students have to take the concepts and skills they have learned and apply them in a new way.

Struggling:

- Peer assistance is encouraged. In addition to this, the instructional videos provided by the STEMI curriculum include the final code for all assignments.
- Students that are really stuck can either refer to those videos, or can be provided with a “snippet” of code by the instructor.

Westbrook High School Learning Expectations

The Westbrook High School student will meet expectations by...

- ☐ Reading a wide range of texts effectively
- ☐ Writing effectively for a variety of purposes
- ☐ Presenting ideas accurately with the support of engaging media
- ☐ Thinking critically to solve problems and reach well reasoned judgments
- ☐ Working responsibly and collaboratively

Assessments

Include an overview of authentic assessments

Formative Assessments and Corresponding Rubrics/Checklists when Applicable:

Self progress checks:

1. There are multiple sections of the coding assignment: ie, making it walk, connect to Bluetooth, tilt, etc. At each step, students can upload their code and test it to be sure that it is working.

2. The coding software also provides feedback identifying when errors are present in the code. This helps students periodically check their work rather than trying to debug at the end.

Summative Assessments and Corresponding Rubrics/Checklists when Applicable:

- There is a formal knowledge check for students to complete after they develop their app
- [App Development Knowledge Check.pdf](#)
- Students also have an end of unit knowledge check to complete
- [Unit 4 End of Unit Presentation Rubric.pdf](#)
- [App Development Knowledge Check Rubric.pdf](#)

Science / Technology Curriculum
Class: Robotics and Automated Systems 1 Grade(s) 9-12

Subject(s)	Science / Technology
Grade/Course	9-12 Robotics and Automated Systems 1
Unit of Study	Unit 5: 3D Modeling
Pacing	4 Weeks

CT State Standards
What are the goals of this unit?

Priority/Focus Standards:

HS-ETS1-2. Design a solution to a complex real-world problem by breaking it down into smaller, more manageable problems that can be solved through engineering.

HS-ETS1-4. Use a computer simulation to model the impact of proposed solutions to a complex real-world problem with numerous criteria and constraints on interactions within and between systems relevant to the problem.

NGSS Science and Engineering Practices

Currently there are only 4 NGSS Engineering Standards. The following 7 "Science and Engineering Practices" are a foundational component of NGSS and are present throughout this course. The practices that are prominent in this unit are bolded.

- 1. Asking questions and defining problems.**
- 2. Developing and using models.**
3. Planning & carrying out investigations.
- 4. Analyzing and interpreting data.**
- 5. Using mathematics and computational thinking.**

6. Constructing explanations and designing solutions.
7. Engaging in argument from evidence.
8. Obtaining, evaluating, and communicating information.

Correspondence to CT Core Standards

What are the goals of this unit?

Reading

CCSS.ELA-LITERACY.RST.11-12.3: Follow precisely a complex multistep procedure when carrying out experiments, taking measurements, or performing technical tasks; analyze the specific results based on explanations in the text.

CCSS.ELA-LITERACY.RST.11-12.4: Determine the meaning of symbols, key terms, and other domain-specific words and phrases as they are used in a specific scientific or technical context relevant to *grades 11-12 texts and topics*.

Writing

CCSS.ELA-LITERACY.WHST.11-12.1.D: Establish and maintain a formal style and objective tone while attending to the norms and conventions of the discipline in which they are writing.

CCSS.ELA-LITERACY.WHST.11-12.2.B: Develop the topic thoroughly by selecting the most significant and relevant facts, extended definitions, concrete details, quotations, or other information and examples appropriate to the audience's knowledge of the topic.

CCSS.ELA-LITERACY.WHST.11-12.4: Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience.

Integration of Knowledge and Ideas:

CCSS.ELA-LITERACY.RST.11-12.7: Integrate and evaluate multiple sources of information presented in diverse formats and media (e.g., quantitative data, video, multimedia) in order to address a question or solve a problem.

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Unwrapped Priority Standards	
Skills/Suggested Outcomes <i>What must students do?</i>	Concepts <i>What must students know?</i>
<ol style="list-style-type: none"> 1. Students will incorporate 3D design elements effectively. 2. Students will create multiple 3D models that meet required specifications. 3. Students will 3D print and install components on their hexapod robot. 	<ol style="list-style-type: none"> 1. Students will understand how: space, line, mass/volume - form, shape, texture and color are incorporated into a 3D model. 2. There are a number of techniques that can be utilized (such as using construction lines, mirroring / copying parts) to meet required specifications. 3. There are many steps required of an engineer tasked with creating a part. This includes: <ol style="list-style-type: none"> a. precise measurement / design b. file conversion c. thoughtful "placement" of the part on the print stage d. slicing e. printing f. installation
Essential Questions <i>What essential questions will be considered?</i>	Corresponding Big Ideas <i>What understandings are desired?</i>
<ol style="list-style-type: none"> 1. To what extent is 3D modeling a part of modern engineering, manufacturing, and entertainment? 2. Analyze the continuity and change in drafting / design techniques since the advent of CAD. 	<ol style="list-style-type: none"> 1. 3D modeling has become one of the fastest growing fields of computer use this century. It is a 3 dimensional representation of reality, and its applications are broad in scope. 2. While the technology has changed greatly, the general

approach of modeling and the process that engineers follow while drafting are largely the same. Engineers must make precise measurements and models to test ideas and scrutinize designs to ensure the success of a project.

Resources

Student Technology Integration and Correspondence to ISTE Standards when Applicable:

1.3 Knowledge Constructor Students critically curate a variety of resources using digital tools to construct knowledge, produce creative artifacts and make meaningful learning experiences for themselves and others.

- 1.3D Students build knowledge by actively exploring real-world issues and problems, developing ideas and theories and pursuing answers and solutions.

1.5 Computational Thinker Students develop and employ strategies for understanding and solving problems in ways that leverage the power of technological methods to develop and test solutions.

- 1.5C Students break problems into component parts, extract key information, and develop descriptive models to understand complex systems or facilitate problem-solving.

Informational Texts:

- **Media: This course utilizes the STEMI Platform for instructional videos and materials. Below is the link:**
 - STEMI Platform
 - On the STEMI platform, students will have access to both the “ebook” as well as the “courseware”
 - The courseware is often used in class for class discussion / lecture purposes.
 - The course ware functions like a prezzi, and has numerous videos / external links embedded in it which correspond with the content being presented.
 - The ebook contains the same information and is better used as a reference for students and teachers.

Websites:

- <https://www.onshape.com/en/>

- This is the CAD software we utilize in this unit.

Other Resources:

- If you wish to print your 3D models and install them on your hexapod, you will need a 3D printer and Slicing software. We utilize the Prusa min+ 3D printer, and their proprietary slicing software.

Vocabulary/Terminology

Vocabulary/Terminology with Definitions:

3D: three-dimensional shapes are solid figures or objects or shapes that have three dimensions – length, width, and height. Unlike two-dimensional shapes, three-dimensional shapes have thickness or depth. A cube and cuboids are examples of three-dimensional objects, as they have length, width, and height.

3D printer: machines which will print a three dimensional object.

CNC Machine: Computer Numerical Control (CNC) machining is a manufacturing process in which pre-programmed computer software dictates the movement of factory tools and machinery.

CAD: computer aided drafting.

3D design elements: line, texture, mass, volume, shape, space.

Virtual Reality: the computer-generated simulation of a three-dimensional image or environment that can be interacted with in a seemingly real or physical way by a person using special electronic equipment, such as a helmet with a screen inside or gloves fitted with sensors.

Rendering: the process of generating a 2D image out of a 3D model.

Slicing : process of converting a 3D model into printing instructions for a 3D printer.

Perspective View: Perspective view is a two-dimensional representation of a three-dimensional space, where the apparent size of an

object decreases as its distance from the viewer increases.

Isometric View: In computer graphics, a rendering of a 3D object that eliminates the distortion of shape created by true perspective. In isometric views, all lines on each axis are parallel to each other, and the lines do not converge.

Planes: a “surface” that one can sketch on in Onshape.

Sketch: a two dimensional drawing in Onshape.

Extrude: function in onShape which makes a sketch three dimensional.

Trim: function used to remove portions of a sketch.

Spline: function used for drawing wavy lines.

Dimensions Function: allows for precise measurements in onShape.

Boolean Tool: allows for union, subtraction, or intersection of parts in onShape.

Mirror Function: creates a mirror image of a design in Onshape.

Constrained: an object is constrained in Onshape if it cannot be moved.

Coincident: used to align objects etc in Onshape to a common point, line, etc.

Learning Plan

Overview and Key Learning Events and Instruction Per Week

Week 1, Intro to 3D Modeling: A teacher led discussion which utilizes the STEMI courseware for Unit 5; Module 1 will introduce students to the scope of 3D modeling. Within this are numerous examples of movies, video games, industrial uses, etc.

Students will then use the two tutorial videos below to do some basic design in Onshape. The videos guide students step by step

(similar to the STEMI curriculum) introducing basic concepts such as sketching, and extruding.

- Beginner Tutorial 1/5 - Onshape 3D CAD - Creating Sketches and Objects
- Beginner Tutorial 2/5 - Onshape 3D CAD - Adding Features

This assignment is very helpful for students that may struggle with CAD, and for those that have some experience it serves as a great refresher.

- Part 1 Onshape

Week 2, Castle de Westbrook: This is a more complex CAD project, in which students are given a list of engineering requirements to follow. There is no tutorial to follow, students must interpret the requirements, and create a final product which meets those requirements.

- Castle de Westbrook

Weeks 3-4, Hello Hexapod!: Students follow the tutorials provided by STEMI to create 3D models of a “top plate,” “bone link,” and “foot” for their hexapod.

Distribute the rubric at the start of the build to ensure that students are aware of the grading process for this assignment

- 3D Modeling Assessment Rubric.pdf

To conclude this unit, students are asked to choose at least one component they have modeled to 3D print and install on their hexapod. As students are reaching this print phase at different times, I will generally demonstrate the export / slicing process for students one on one.

Interdisciplinary / Real World / Global Connections

- 3D modeling is becoming more prevalent in our increasingly digital world. Students are presented with a variety of careers such as animation and video game design which utilize 3D modeling.
- In order to be successful in this unit, students need to employ precise measurement and strong attention to details. They also need to extrapolate information from a variety of sources, and draw upon their increasing skill set to solve a problem.

- Finally students are given a set of engineering requirements to meet, simulating a real world scenario

Differentiation

Advanced:

- Students can work at their own pace, and essentially can customize multiple parts for their hexapod. Students are required to print at least one component, but there are no limitations to what they can create in this unit.

Struggling:

- The STEMI Curriculum also provides a “basics” tutorial. If students are struggling after the “Part 1” project, they are then directed to work through this tutorial as well.
- For students that struggle with the “Part 1” project, periodically update a hand drawn diagram on the front board (including dimensions)

Westbrook High School Learning Expectations

The Westbrook High School student will meet expectations by...

- ☐ Reading a wide range of texts effectively
- ☐ Writing effectively for a variety of purposes
- ☐ Presenting ideas accurately with the support of engaging media
- ☐ Thinking critically to solve problems and reach well reasoned judgments
- ☐ Working responsibly and collaboratively

Assessments

Include an overview of authentic assessments

Formative Assessments and Corresponding Rubrics/Checklists when Applicable:

- Part 1 Project
 - Part 1 Onshape
- Castle de Westbrook Project
 - Castle de Westbrook

Summative Assessments and Corresponding Rubrics/Checklists when Applicable:

- 3D Modeling Assessment Rubric
 - 3D Modeling Assessment Rubric.pdf

**Westbrook Public Schools
Science / Technology Curriculum
Class Robotics and Automated Systems 1 Grade(s) 9-12**

Subject(s)	Science / Technology
Grade/Course	9-12 Robotics and Automated Systems 1
Unit of Study	Unit 6: Arduino & Electronics
Pacing	4 weeks

CT State Standards

What are the goals of this unit?

Priority/Focus Standards:

HS-ETS1-2: Design a solution to a complex real-world problem by breaking it down into smaller, more manageable problems that can be solved through engineering

NGSS Science and Engineering Practices:

Currently there are only 4 NGSS Engineering Standards. The following 7 "Science and Engineering Practices" are a foundational component of NGSS and are present throughout this course. The practices that are prominent in this unit are bolded.

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

Correspondence to CT Core Standards

What are the goals of this unit?

Reading

CCSS.ELA-LITERACY.RST.11-12.3

Follow precisely a complex multistep procedure when carrying out experiments, taking measurements, or performing technical tasks; analyze the specific results based on explanations in the text.

CCSS.ELA-LITERACY.RST.11-12.4

Determine the meaning of symbols, key terms, and other domain-specific words and phrases as they are used in a specific scientific or technical context relevant to *grades 11-12 texts and topics*.

CCSS.ELA-LITERACY.RST.11-12.10

By the end of grade 12, read and comprehend science/technical texts in the grades 11-CCR text complexity band independently and proficiently.

Speaking and Listening

CCSS.ELA-LITERACY.SL.11-12.6

Adapt speech to a variety of contexts and tasks, demonstrating a command of formal English when indicated or appropriate. (See grades 11-12 Language standards 1 and 3 here for specific expectations.)

Unwrapped Priority Standards

Skills/Suggested Outcomes

What must students do?

1. Effectively communicate to their hexapod a set of instructions so that it may operate autonomously
2. Students will apply previously learned concepts to solve a variety of problems.

Concepts

What must students know?

1. Programming Language is used to allow designers to program in a language that is more akin to human language. The compiler will translate that code into "machine language."

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	2. Students must understand that a programming language is similar to their native language. In order to communicate effectively, one must understand the lexicon, syntax, and meaning of the language. Once these are learned, the designer can use the language to create new solutions.
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Essential Questions <i>What essential questions will be considered?</i>	Corresponding Big Ideas <i>What understandings are desired?</i>
<ol style="list-style-type: none"> 1. To what degree do programmers communicate directly with a machine? 2. To what degree is there freedom and or limitations to programming? 3. To what extent should programming language be considered a constant? 	<ol style="list-style-type: none"> 1. Programmers write their programs in a language that is understandable / intuitive to human beings. The program must be converted into machine language by a intermediary (compiler) 2. A programmer is limited by the programming language being used as well as their understanding of that language. Hardware limitations or resources also dictate the range of possibilities for a particular automated system. 3. While all programming languages are inherently different, a fundamental understanding of how languages work will greatly aid the designer when learning a new language. All languages have a lexicon, syntax, and meaning. Programmers should focus on the role of each when learning a new language.

Resources
Student Technology Integration and <u>Correspondence to ISTE Standards</u> when Applicable:

1.5 Computational Thinker Students develop and employ strategies for understanding and solving problems in ways that leverage the power of technological methods to develop and test solutions.

1.5 D Students understand how automation works and use algorithmic thinking to develop a sequence of steps to create and test automated solutions.

Informational Texts:

- **Media:** This course utilizes the STEMI Platform for instructional videos and materials. Below is the link:

- STEMI Platform

- On the STEMI platform, students will have access to both the “ebook” as well as the “courseware”

- The courseware is often used in class for class discussion / lecture purposes.

- The course ware functions like a prezzi, and has numerous videos / external links embedded in it which correspond with the content being presented.

- The ebook contains the same information and is better used as a reference for students and teachers.

Online Resources / Websites:

- **STEMI Online IDE:** https://editor.stemi.education/editor?template=empty_user_mode_template&open-files=main.ino&token=870a64bdc80cc0c35743b26508bd40e942b90c28

Vocabulary/Terminology

Vocabulary/Terminology with Definitions:

Arduino: Arduino is an open-source hardware and software platform created to simplify and standardize microcontroller-based projects.

Array: An array is a data structure consisting of a collection of elements (values or variables), each identified by at least one array index or key.

"C" Computer Language: An older parent language for computer programming. We will be using a newer version of this "C++."

IDE: Interactive Design Environment. This is the platform used for writing code and programming your aduino. STEMI provides us with their own version of this, but there are many of these to be found online.

Compile: The IDE will compile your code for you. This is the process of checking for errors, as well as converting the code input by the user into "computer language"

Computer Language: This is the binary language that is used to directly communicate with the machine.

Void Setup: Here, we insert the code we want to run once.

Void Loop: Here, we insert the code we want to run repeatedly.

Diode: electrical component that only allows current to flow in one direction

Milliseconds (ms): 1/1000th of a second. When coding in C languages, time is input in milliseconds

"Loop:" a function in a program which will repeat itself until a condition is met

"FOR loop:" A FOR loop is very helpful in applications where you want to cycle through specific number of iterations

Iteration: a single loop of many is called iteration.

Linear Velocity: the rate at which the robot will move in a straight line in any direction, the input is a percentage from 0-100%.

"Direction:" is the angle at which the hexapod will move at the linear velocity, the input is -180 to 180 degrees.

Angular Velocity: the rate of rotation of the robot, in percentage -100% to 100%.

"Duration:" is the time the movement is executed in ms.

X direction – From right to left.

Y axis – From back to front.

Z axis – Up from the ground.

“Touch Sensors:” located on top of the hexapod’s microcontroller, these sensors are used to cycle through various modes on the robot.

“Single Touch:” a pattern with only one X (one sensor is touched).

“Multi Touch:” is a pattern with more than one X (multiple sensors are touched simultaneously).

Autonomous: denoting or performed by a device capable of operating without direct human control.

Learning Plan

Overview and Key Learning Events and Instruction Per Week

Learning Tasks Per Week (Including Instructional Strategies)

Week 1, Arduino Basics: Teacher led discussion will introduce students to the arduino microcontroller, as well as the basics of programming language. A simple *sample* program will be shared with students. They will need to write “comments” for the program which explain each section of code.

Sample Programs for students to use:

- Basic Calculator.txt
- First Day Program.txt

Weeks 2-3, Programming the Hexapod: Students will use the STEMI instructional videos to program their robot. Students will be programming LEDs (color and motion), walk / tilt / rotate functions. The ultimate goal is to write an autonomous dance routine for their robot. This assignment is presented to students within the instructional videos provided by STEMI.

- Sample Dance Video!

- Hexapods Dancing to Up Town Funk

Week 4, Hexapod Dance Party!: Students will conduct their presentations and demo their robot's dance for the class.

Interdisciplinary / Real World / Global Connections

- "C" computer language is taught in most colleges as it is a simple yet widely applicable language. Proficiency in this programming language as a high school student can certainly open doors to careers / college majors / internships, etc.
- "C" language is used in the creation of hardware devices, operating systems, drivers, kernels, etc. It is also used for the development of GUIs and IDEs. For example: Linux Kernel is written in the C language.
- It is also used in embedded product design, device driver, assembler, compiler design, operating system, simulators and testing.

Differentiation

Advanced:

- This unit is virtually limitless. Students can go as far as they can in the time allotted. Students that complete all components of this assignment could potentially build their own arduino based project in class. We have plenty of microcontrollers and necessary components for this to happen. This is also a nice intro to Robotics and Automated Systems 2!

Struggling:

- All lessons within the STEMI curriculum are instructed on a step by step basis. Students may therefore work at their own pace.
- Students may also pair up to assist one another as needed.

Westbrook High School Learning Expectations

The Westbrook High School student will meet expectations by...

- ☐ Reading a wide range of texts effectively
- ☐ Writing effectively for a variety of purposes
- ☐ Presenting ideas accurately with the support of engaging media
- ☐ Thinking critically to solve problems and reach well reasoned judgments
- ☐ Working responsibly and collaboratively

Assessments

Include an overview of authentic assessments

Formative Assessments and Corresponding Rubrics/Checklists when Applicable:

- Students will program their robot in stages and are instructed to manually test their robot after each programming stage is completed.

Summative Assessments and Corresponding Rubrics/Checklists when Applicable:

- There is an end of unit knowledge check.
 - [Knowledge Check Arduino.pdf](#)
 - [Rubric for Arduino Knowledge Check.pdf](#)
- Students also will conduct a formal presentation regarding their experience and will demo their robot's dance.
 - [End of Unit Presentation Rubric.pdf](#)

Westbrook Public Schools Science / Technology Curriculum

Class: Robotics and Automated Systems 1 Grade(s) 9-12

Subject(s)	Science / Technology
Grade/Course	Robotics and Automated Systems 1
Unit of Study	Unit 7: Robotic Arm Design Project
Pacing	1-3 Weeks

CT State Standards

What are the goals of this unit?

Priority/Focus Standards:

HS-ETS1-1. Analyze a major global challenge to specify qualitative and quantitative criteria and constraints for solutions that account for societal needs and wants.

HS-ETS1-2: Design a solution to a complex real-world problem by breaking it down into smaller, more manageable problems that can be solved through engineering

HS-ETS1-3 Engineering Design Evaluate a solution to a complex real-world problem based on prioritized criteria and trade-offs that account for a range of constraints, including cost, safety, reliability, and aesthetics as well as possible social, cultural, and environmental impacts.

NGSS Science and Engineering Practices

Currently there are only 4 NGSS Engineering Standards. The following 7 "Science and Engineering Practices" are a foundational component of NGSS and are present throughout this course. The practices that are prominent in this unit are bolded.

- 1. Asking questions and defining problems.**
- 2. Developing and using models.**
- 3. Planning & carrying out investigations.**

4. Analyzing and interpreting data.
5. Using mathematics and computational thinking.
6. Constructing explanations and designing solutions.
7. Engaging in argument from evidence.
8. Obtaining, evaluating, and communicating information.

Correspondence to CT Core Standards

What are the goals of this unit?

Reading

CCSS.ELA-LITERACY.RST.11-12.3: Follow precisely a complex multistep procedure when carrying out experiments, taking measurements, or performing technical tasks; analyze the specific results based on explanations in the text.

CCSS.ELA-LITERACY.RST.11-12.4: Determine the meaning of symbols, key terms, and other domain-specific words and phrases as they are used in a specific scientific or technical context relevant to *grades 11-12 texts and topics*.

Writing

CCSS.ELA-LITERACY.WHST.11-12.2: Write informative/explanatory texts, including the narration of historical events, scientific procedures/experiments, or technical processes.

Speaking and Listening

CCSS.ELA-LITERACY.SL.11-12.4: Present information, findings, and supporting evidence, conveying a clear and distinct perspective, such that listeners can follow the line of reasoning, alternative or opposing perspectives are addressed, and the organization, development, substance, and style are appropriate to purpose, audience, and a range of formal and informal tasks.

CCSS.ELA-LITERACY.SL.11-12.5: Make strategic use of digital media (e.g., textual, graphical, audio, visual, and interactive elements) in presentations to enhance understanding of findings, reasoning, and evidence and to add interest.

CCSS.ELA-LITERACY.SL.11-12.6: Adapt speech to a variety of contexts and tasks, demonstrating a command of formal English

when indicated or appropriate. (See grades 11-12 Language standards 1 and 3 here for specific expectations.)

Math

CCSS.MATH.CONTENT.HSG.MG.A.1: Use geometric shapes, their measures, and their properties to describe objects (e.g., modeling a tree trunk or a human torso as a cylinder).*

Unwrapped Priority Standards

Skills/Suggested Outcomes <i>What must students do?</i>	Concepts <i>What must students know?</i>
<ol style="list-style-type: none"> 1. Students will identify a problem, propose solutions, and choose the best solution. 2. Students will work in teams to design a functioning robotic arm for a "Mars Rover" 	<ol style="list-style-type: none"> 1. Engineers must have a clear understanding of the problem they are addressing; they should explore multiple solutions to the problem, and develop tests / criteria to choose the best solution. 2. There are often multiple ways to solve one problem. When choosing the best solution, students should have specific criteria, and or develop tests to generate data for analysis.

Essential Questions

What essential questions will be considered?

1. Explain the benefits and limitations to both developing / modifying existing technology as well as creating new technology
2. What similarities and differences are there among the

Corresponding Big Ideas

What understandings are desired?

1. In some circumstances it may be more cost effective to modify or develop an existing technology or product, while other times it is necessary to create a new product.
2. While engineers do specialize in a field or discipline, the Engineering Mindset is common to all Engineers.

various Engineering fields / disciplines?

Resources

Student Technology Integration and Correspondence to ISTE Standards when Applicable:

1.4 Innovative Designer: Students use a variety of technologies within a design process to identify and solve problems by creating new, useful or imaginative solutions.

1.4a Students know and use a deliberate design process for generating ideas, testing theories, creating innovative artifacts or solving authentic problems

1.4b Students select and use digital tools to plan and manage a design process that considers design constraints and calculated risks

1.4c Students develop, test and refine prototypes as part of a cyclical design process.

Informational Texts:

- **Media:** This course utilizes the STEMI Platform for instructional videos and materials. Below is the link:
 - STEMI Platform
 - On the STEMI platform, students will have access to both the “ebook” as well as the “courseware”
 - The courseware is often used in class for class discussion / lecture purposes.
 - The course ware functions like a Prezi, and has numerous videos / external links embedded in it which correspond with the content being presented.
 - The ebook contains the same information and is better used as a reference for students and teachers.
- Digital Materials for Student use with Mobile App development: AI Materials,

Online Resources / Websites:

Technical Diagrams For Student Use

- [HexapodX Arm_v1.pdf](#)
- [HexapodX Bucket.pdf](#)
- [HexapodX Mount.pdf](#)

Teacher Guide:

- [RAS-U07M02_0-TG - CompanyX_Data.pdf](#)

Vocabulary/Terminology

Vocabulary/Terminology with Definitions:

Prototype: a first, typical or preliminary model of something, especially a machine, from which other forms are developed or copied.

Validation: the product is tested to prove that it accomplished the task, or meets a requirement.

Payload: The term payload refers to any additional parts, features or foreign substance or material the Hexapod-X is carrying or moving when compared with the baseline Hexapod.

Baseline Hexapod: Hexapod as designed and delivered by STEMI.

Hexapod X: Upgraded hexapod design and implementation that has the broad goal of exploring the lunar surface, acquiring samples of lunar material, and transporting those materials.

Simulated Lunar Materials: small pea gravel and sand mixture (50% each).

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Hexapod Bucket Technical Drawing: 2D drawing of the bucket with specifications.

Arm v1 Technical Drawing: 2D drawing of the arm with specifications.

Hexapod ARm v1 3D Model: 3D Solid model of an arm in STL format.

Hexapod Mount Technical Drawing: 2D drawing of mount with specifications.

Hexapod Mout 3D Model: 3D solid model of mount in STL format.

Servo Control Software: MIT App inventor code base.

Servo Control Hardware Interface: Hardware interface for servo motor.

Learning Plan

Overview and Key Learning Events and Instruction Per Week

Learning Tasks Per Week (Including Instructional Strategies)

Weeks 1-3: This entire unit is student driven. Students will work in teams to develop, test / validate, and present their solution to the problem. Below I have attached the teacher guide which will help the teacher to keep students on track with their work. Ultimately it is up to the students to design and implement their prototype and successfully collect and transport "Martian soil."

Students can be successful in this unit, even if their design does not work or even come to fruition. As can be seen on the attached rubric, students are graded on the process, not necessarily the result.

- [RAS-U07M05-RB-Robotic Arm Design Project Rubric.pdf](#)

Teacher Guide:

- [RAS-U07M02_0-TG - CompanyX_Data.pdf](#)

Interdisciplinary / Real World / Global Connections

- This unit is the capstone project for the course. Students must incorporate all they have learned and apply it in new ways to solve a real world problem, while also collaborating with their team.
- This unit is a performance task. Students are given a real world problem. Successful completion of this project involves the same process used by engineers working for NASA.

Differentiation

Advanced:

- Advanced students could complete the code for this project on Arduino. They would need some additional data and information to do so. This is available from Milestone C.
- The teacher could modify the assignment in a variety of ways to allow students the opportunity to design additional parts, or meet additional or alternative requirements.

Struggling:

- The STEMI curriculum provides an arm for students that need to be modified in order to work. This is less complicated than designing the arm from scratch.

Westbrook High School Learning Expectations

The Westbrook High School student will meet expectations by...

- ☐ Reading a wide range of texts effectively
- ☐ Writing effectively for a variety of purposes
- ☐ Presenting ideas accurately with the support of engaging media
- ☐ Thinking critically to solve problems and reach well reasoned judgments
- ☐ Working responsibly and collaboratively

Assessments

Include an overview of authentic assessments

Formative Assessments and Corresponding Rubrics/Checklists when Applicable:

- Students should be testing their prototypes as they go. STEMI provides a test plan template (attached below)
 - RAS-U07M03-ST- Test Plan Template.docx

Summative Assessments and Corresponding Rubrics/Checklists when Applicable:

- Students have choice in how they want to demonstrate mastery of this unit. They may complete a formal presentation, or write a report. Rubrics for both are attached below
 - RAS-U07M04 0-RB-Robotic Arm Presentations Rubric.pdf
 - RAS-U07M04 1-RB-Robotic Arm Report Rubric.pdf
 - RAS-U07M04 0-ST- Final Presentation Template.pptx
 - RAS-U07M04 0-RB-Robotic Arm Presentations Rubric.pdf
- Students are also graded on the process of completing this project as well
 - RAS-U07M05-RB-Robotic Arm Design Project Rubric.pdf

ENCLOSURE 2

A	Sept.2021	Oct. 2021	Nov.2021	Dec.2021	Jan.2022	Feb.2022	Mar.2022	Apr.2022	1-May	1-Jun
PRE -K	45	44	45	44	45	46	47	48		
KINDER.	41	42	43	45	46	44	45	45		
1	42	42	42	43	43	44	45	45		
2	37	38	39	37	37	37	36	36		
3	48	49	49	49	49	48	48	48		
4	29	30	30	30	30	29	29	29		
TOTAL	242	245	248	248	250	248	250	251		
5	50	50	50	50	50	50	50	50		
6	37	37	38	38	38	35	36	36		
7	40	41	41	40	40	40	40	40		
8	44	44	43	43	43	43	44	44		
TOTAL	171	172	172	171	171	168	170	170		
9	42	42	42	42	42	42	41	41		
10	49	49	50	51	51	50	50	50		
11	61	61	61	61	61	62	64	64		
12	60	60	60	59	59	58	58	58		
TOTAL	212	212	213	213	213	212	213	213		
In-District										
Outplaced	7	7	8	9	9	8	8	8		
DISTRICT	632	629	633	632	634	628	633	634		
TOTAL	637	636	641	641	643	636	641	642		

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**WESTBROOK BOARD OF EDUCATION
EDUCATE, CHALLENGE, & INSPIRE**

**WESTBROOK BOARD OF EDUCATION
Tuesday, March 8, 2022
Regular Board of Education Meeting**

MINUTES

BOE Members Present: Kim Walker, Christine Kuehlewind, Zachary Hayden, Mary Ella Luft, Michelle Palumbo
Via telephone: Sally Greaves, Andrew Miesse, Mike Esposito

Members absent: Don Perreault

Also Present: Superintendent Kristina Martineau, Business Manager, Lesley Wysocki, Administrators Tara Winch, Ruth Rose, Matthew Talmadge, Fran Lagace; Technology Director, Ben Russell

- I. CALL TO ORDER** – Kim Walker, Chair, called the regular BOE meeting of March 8, 2022 to order at 7:00 p.m.
- II. PLEDGE OF ALLEGIANCE**
- III. BOARD OF EDUCATION ACKNOWLEDGEMENTS** – In conjunction with March as Board Member Appreciation Month, Superintendent Martineau extended appreciation to the Board members for their time and commitment to the Westbrook Board of Education.
- IV. STUDENT REPRESENTATIVE REPORT** – Andrew Livingstone reported on school activities including both boys' and girls' basketball teams in the Class S state tournament; Indoor Track in the Shoreline Tournament, Cheerleaders receiving all state and all conference recognition, Alpine Ski – HFCH Hockey Academic Squad, and the start of spring sports on March 19. Other activities include World Language and Culture events; smooth transition of the end of mask mandates; upcoming production of "Theory of Relativity (ticket sales online only); music and jazz band performances; March 16 8th grade and high school combined band and choir concert, and Teen Leadership activities. Principal Winch recognized Andrew for having placed 2nd in the American Legion Oratorical Competition
- V. PUBLIC COMMENT:** No comments
- VI. ADMINISTRATOR(S) COMMENTS**
 - A. Pre-School and General Update** - Fran Lagace, Special Services Director, provided an in-depth review of the Special Education Department. Topics he covered were School Wellness Audit, Federal Rights Survey (with no suspensions or expulsions); Unified Sports program, IEP training for staff; use of ESSER funds to finance EConn work and Pre-school and kindergarten Screening.
 - B. Principal Updates:** Ruth Rose, Principal, talked about the reading activities at Daisy, including Read Across America, Reading Parade and a Pajama for Paisley Day; Book Fair; STAR Data, etc. Mrs. Rose is grateful for the support of the Superintendent and BOE for work with EConn. Mrs. Rose also talked about the transformation of the pit area for Robotics and the Lego Wall at Daisy. The Daisy 5K Dash is planned for the spring. The registration process for preschool and kindergarten students has been moved up. Mask transitioning went smoothly.

Principal Talmadge, WMS, also reported a smooth mask transition. Mr. Talmadge recognized Dan Jennings for helping with Pledge of Inclusion" – about belonging, everyone having a voice, acceptance and kindness. Mr. Talmadge invited board members to view the Symbol of Inclusion Board at the middle school. He also talked about the success of Unified Sports. Students will soon

be taking STAR tests and SBAC's. Work is still going on with EL families with each family receiving a welcome packet. He mentioned the need for a tutor for EL students. Middle School will be hosting a speaker, Steven Hill, on substance use prevention on May 18th for 7th and 8th graders.

Ms. Winch, WHS Principal, talked about the School Climate Team Leadership students participation at the State Capital in January and discussion on the topic of social and emotional issues. This presentation will be posted on the website. Ms. Winch reported the NEASC 5 year report has been submitted. SAT preparation workshops have been in progress. Superintendent Martineau recognized Ms. Winch and her team for the intervention work with students throughout the pandemic and the fact that all seniors graduated.

VII. NEW BUSINESS

- A. Policy- First Reading – 1000 – Non-Discrimination – Community/Board Operation
- B. Policy- First Reading of Policy 4000 – Non-Discrimination – Personnel
- C. Policy -First Reading of 5000 – Non-Discrimination – Students

The BOE was asked to review the non-discrimination policies above which will be brought to the April BOE meeting for a vote to adopt.

- D. Recommendation to rescind Policy 0521 – Non-Discrimination and replace with Policy 1000, Policy 4000, and Policy 5000 – First Reading. (per WPS Policy 9311) **Policy 0521 will be brought to the April meeting with a recommendation to vote to rescind.**
- E. COVID Related Policies: 4118.237, 4218.237, 5141.8 – Face mask coverings – Recommendation to Rescind (per WPS Policy 9311) - First Reading. **These policies will also be brought to the April BOE meeting with the recommendation to vote to rescind.**
- F. Policy 9030 – Democratic Principles – (Revised) First Reading
- G. Policy 9160 – Student Representatives on the Board of Education – (Revised) First Reading
- H. Policy 9321 – Time, Place and Notification of Meetings –(Revised) First Reading –

Policies listed in F.G. and H. above have had slight revisions as suggested by the Policy Subcommittee and will also be brought to the April BOE meeting for a vote to approve the revisions.

VIII. SUPERINTENDENT'S REPORT

- A. Enrollment – Superintendent Martineau reported March enrollment totals equal 641 students Pre K through 12, which includes 8 out-placed students.
- B. Draft Equity and Access Statement – Co-Chairs Tara Winch and Nancy Malafronte complimented the work of the committee including S. Cost, M. Cusano, M. Tomek, C. Rickaby, T. Overchuck and L. Fitzgerald and to the staff for their feedback on the process of the Equity and Access Statement.
- C. Budget Update: Superintendent updated the Board on the budget process. She and L. Wysocki have met with the Board of Finance to present the Capital Plan and will meet once more on March 30. There is a Town Hearing on the Budget on April 11 and the vote will be in May.
- D. Portrait of a Graduate Update: A handout was given to the Board on the current outcome of the survey for Portrait of a Graduate listing the priorities that should be included in the Portrait of a Graduate. Superintendent Martineau said the image piece will come after the language is determined.

IX. OLD BUSINESS: None

X. CONSENT AGENDA

- A. Approval of Minutes:
 - 1. Regular Meeting – February 08, 2022 – MOTION by Z. Hayden and SECOND by M. Luft to approve the minutes of February 8, 2022. Vote unanimous.

XI. FINANCIAL REPORTS

- A. Review of Check Listing: Board members reviewed check listings for February 3, 2022 in the amount of \$57,014.80 and February 17, 2022 in the amount of \$109,093.96.
- B. Budget Narrative/Review of Expenditure Report: Mrs. Wysocki provided an overview of the budget.
- C. Line Item Transfer - None
- D. Insurance Report – An updated insurance report was distributed.

XII. BOARD OF EDUCATION GOALS

XIII. BOARD COMMITTEE REPORTS

- A. Policy – K. Walker reported on the above-mentioned policy actions (Item VII.) by the subcommittee.
- B. Long Range Planning –L. Wysocki reported the RFP for mechanical job was released. A walk through has been done and a vendor should be announced soon.
- C. Fiscal & Budget – Z. Hayden – no report
- D. Teaching & Learning – Angelo Saba presented to the subcommittee and talked about navigating through the online curriculum and updating of curriculum cycles.
- E. Communications & Marketing - M. Luft (no report) Next meeting on 3/24/2022
- F. Negotiations – S. Greaves (no report)
- G. Town Energy Ad Hoc Committee – L. Wysocki reported C. Ehlert is the Chair. Discussion was on solar program and use of infrastructure money. Andrew Miesse will be officially appointed as a Committee member.
- H. LEARN: Z. Hayden reported on hearing from Superintendent from Groton, LEARN's involvement with Region 17 on a Student Support Site, Office of Teaching & Learning Network and a discussion on mask mandate.
- I. PTSO Representatives - M. Luft (Daisy), Z. Hayden (WMS), K. Walker (WHS) (no reports)
- J. BOE Ad Hoc Calendar Committee - Z. Hayden reported the committee met on 2/24 at Daisy and the Committee continues work on a calendar draft. They also discussed the CABA BOE Leadership recognition and will proceed with gathering artifacts, etc.

XIV. PERSONNEL

Superintendent Martineau announced the retirement(s) of the following teachers effective June 30, 2022.

- A. Professional Retirement(s)
 - 1. Eve Barakos – 21 years in Westbrook – Mathematics Teacher
 - 2. Joseph Biegaj – 41 years in Westbrook – Art Teacher
 - 3. MaryJo Noonan – 13 years in Westbrook – Bilingual Teacher
 - 4. Robert Synott – 48 years in Westbrook – World Language/Spanish
 - 5. Catherine Taylor – 24 years in Westbrook – Math Resource Teacher
- B. Non-Certified Resignation(s)
 - 1. Jordan Suraci – Paraprofessional –submitted her resignation effective 2/25/2022.

XV. EXECUTIVE SESSION

MOTION by Z. Hayden and SECOND by M. Palumbo to move to Executive Session at 8:50 pm with an invitation to Superintendent Kristina Martineau. Vote unanimous.

- 1. Superintendent Goals – Mid-Year Update

Discussion of matters that would result in the disclosure of exempt matters.

MOTION to move back to regular session at 9:24 pm.

XVI. ADJOURN: MOTION by Z. Hayden and SECOND by M. Palumbo to adjourn at 9:25 p.m. Vote unanimous.

Respectfully submitted,
Christine Kuehlewind, Board Secretary

Cecilia S. Lester, Board Recording Clerk

**WESTBROOK BOARD OF EDUCATION
EDUCATE, CHALLENGE, & INSPIRE**

**WESTBROOK BOARD OF EDUCATION
Thursday, March 24, 2022 @ 5:45 p.m.
WHS Library
Special Board of Education Meeting**

MINUTES

Members Present: K. Walker, D. Perreault, C. Kuehlewind, M. Luft, Z. Hayden, Michelle Palumbo
A. Miesse via telephone

Absent: S. Greaves, M. Esposito

Also Present: Superintendent Kristina Martineau; Business Manager Lesley Wysocki;
Roger LaFleur via telephone

I. CALL TO ORDER: K. Walker, Chair, called the Special Meeting of March 24, 2022 to order at 5:49 p.m.

II. BID AWARD FOR MECHANICAL PROJECTS:

After a brief introduction recapping previous actions leading up to this meeting, by Mrs. Wysocki: RFP release, mandatory walkthrough, bid opening; Mr. LaFleur described the price discrepancies between the two proposals that were submitted as vendors having different approaches to the projects and different supply houses being used. During his scope review with SAV-MOR, technical data was examined and found to be within the specifications of the RFP. Mr. LaFleur has worked with SAV-MOR on other school projects.

MOTION by D. Perreault and SECOND by Z. Hayden to award the contract for Daisy and Westbrook High School projects to SAV-MOR. Vote unanimous.

III. PUBLIC COMMENT: None

IV. ADJOURN: MOTION by M. Palumbo and SECOND by Z. Hayden to adjourn at 5:57 p.m. Vote unanimous.

Respectfully submitted,

Christine Kuehlewind, Board Secretary

Cecilia S. Lester, Board Recording Clerk

TBA at next meeting

Westbrook Public Schools

ENCLOSURE 5

Check Listing

Fiscal Year: 2021-2022

Criteria:

Bank Account: GEN FUND AP 211170114

From Date: 3/3/2022
 From Check: 37763
 From Voucher: 1109

To Date: 3/3/2022
 To Check: 37806
 To Voucher: 1109

Check Number	Date	Payee	Amount	Voucher	Status	Type	Cleared?	Clear Date	Void Date
37763	03/03/2022	ADP, INC	\$1,709.85	1109	Printed	Expense	<input type="checkbox"/>	payroll services	
37764	03/03/2022	ALL WASTE, INC.	\$2,395.60	1109	Printed	Expense	<input type="checkbox"/>	trash removal	
37765	03/03/2022	AMAZON CREDIT PLAN	\$3,669.35	1109	Printed	Expense	<input type="checkbox"/>	* see below	
37766	03/03/2022	ARNOLD JOSEPH	\$1,238.00	1109	Printed	Expense	<input type="checkbox"/>	cheer leading choreographer	
37767	03/03/2022	BLOOMFIELD TIMING SERVICES	\$30.00	1109	Printed	Expense	<input type="checkbox"/>		
37768	03/03/2022	CIAC	\$100.00	1109	Printed	Expense	<input type="checkbox"/>		
37769	03/03/2022	CIT TECHNOLOGY FIN SERV., INC.	\$7,574.02	1109	Printed	Expense	<input type="checkbox"/>	copier lease agreement	
37770	03/03/2022	COLLEGE PLANNING PARTNERSHIPS	\$1,250.00	1109	Printed	Expense	<input type="checkbox"/>	SAT course	
37771	03/03/2022	CONN.WATER CO.	\$974.23	1109	Printed	Expense	<input type="checkbox"/>		
37772	03/03/2022	CURTIN MOTOR LIVERY SERV.	\$10,935.00	1109	Printed	Expense	<input type="checkbox"/>	spec. ed. transportation	
37773	03/03/2022	DBO-TSG	\$2,884.63	1109	Printed	Expense	<input type="checkbox"/>	phone bill	
37774	03/03/2022	DELTA-T GROUP HARTFORD, INC.	\$1,850.08	1109	Printed	Expense	<input type="checkbox"/>	para subs	
37775	03/03/2022	EB EXTERMINATING CO.	\$34.00	1109	Printed	Expense	<input type="checkbox"/>		
37776	03/03/2022	EDMENTUM INC.	\$165.00	1109	Printed	Expense	<input type="checkbox"/>		
37777	03/03/2022	EDUCATION WEEK	\$97.00	1109	Printed	Expense	<input type="checkbox"/>		
37778	03/03/2022	EVERSOURCE	\$4,733.12	1109	Printed	Expense	<input type="checkbox"/>	electricity "generation"	
37779	03/03/2022	FOLLETT SCHOOL SOLUTIONS, INC.	\$398.00	1109	Printed	Expense	<input type="checkbox"/>		
37780	03/03/2022	FRONTIER	\$760.13	1109	Printed	Expense	<input type="checkbox"/>		
37781	03/03/2022	GUMDROP BOOKS	\$1,880.51	1109	Printed	Expense	<input type="checkbox"/>	ms library books	
37782	03/03/2022	J.W. PEPPER & SON INC.	\$246.79	1109	Printed	Expense	<input type="checkbox"/>		
37783	03/03/2022	JAEGER SPORTS	\$452.01	1109	Printed	Expense	<input type="checkbox"/>		
37784	03/03/2022	KELLY SERVICES INC.	\$5,160.55	1109	Printed	Expense	<input type="checkbox"/>	substitutes	
37785	03/03/2022	KRISTINA MARTINEAU	\$500.00	1109	Printed	Expense	<input type="checkbox"/>		

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Report: rptGLCheckListing

2021.4.12

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*Amazon = elementary supplies, MS: Art and Spec. ed. supplies, HS: library books, Art, music, P&S, science, tech. and athletic supplies, IT supplies

Westbrook Public Schools

Check Listing

Fiscal Year: 2021-2022

Criteria:

Bank Account: GEN FUND AP 211170114

From Date: 3/3/2022

From Check: 37763

From Voucher: 1109

To Date: 3/3/2022

To Check: 37806

To Voucher: 1109

Check Number	Date	Payee	Amount	Voucher	Status	Type	Cleared?	Clear Date	Void Date
37786	03/03/2022	M & J BUS, INC.	\$62,339.99	1109	Printed	Expense	<input type="checkbox"/>	regular + spec. ed. runs	
37787	03/03/2022	M.D. STETSON COMPANY INC.	\$2,208.14	1109	Printed	Expense	<input type="checkbox"/>	custodial supplies	
37788	03/03/2022	MUTUAL OF OMAHA	\$1,916.50	1109	Printed	Expense	<input type="checkbox"/>	life insurance premium	
37789	03/03/2022	NEACAC	\$305.00	1109	Printed	Expense	<input type="checkbox"/>		
37790	03/03/2022	PD MONSTER LLC.	\$3,100.00	1109	Printed	Expense	<input type="checkbox"/>	IEP training	
37791	03/03/2022	PITNEY BOWES	\$342.24	1109	Printed	Expense	<input type="checkbox"/>		
37792	03/03/2022	SAYBROOK HARDWARE	\$133.23	1109	Printed	Expense	<input type="checkbox"/>		
37793	03/03/2022	SCHOOL SPECIALTY	\$159.50	1109	Printed	Expense	<input type="checkbox"/>		
37794	03/03/2022	SOLIANT HEALTH, LLC.	\$6,305.02	1109	Printed	Expense	<input type="checkbox"/>	para substitutes	
37795	03/03/2022	SPRAGUE OPERATING RESOURCES LLC LOCKBOX	\$24,765.99	1109	Printed	Expense	<input type="checkbox"/>	NG "generation"	
37796	03/03/2022	STADIUM SYSTEMS	\$352.00	1109	Printed	Expense	<input type="checkbox"/>		
37797	03/03/2022	STEWART'S MUSIC	\$525.00	1109	Printed	Expense	<input type="checkbox"/>		
37798	03/03/2022	SUBURBAN STATIONERS	\$620.96	1109	Printed	Expense	<input type="checkbox"/>		
37799	03/03/2022	TEXTHELP INC.	\$1,233.00	1109	Printed	Expense	<input type="checkbox"/>	software renewal	
37800	03/03/2022	[REDACTED]	\$7,700.00	1109	Printed	Expense	<input type="checkbox"/>	spec. ed. tuition	
37801	03/03/2022	THERAPRO, INC.	\$12.99	1109	Printed	Expense	<input type="checkbox"/>		
37802	03/03/2022	VERIZONWIRELESS	\$122.42	1109	Printed	Expense	<input type="checkbox"/>		
37803	03/03/2022	WALMART - CAPITAL ONE	\$34.96	1109	Printed	Expense	<input type="checkbox"/>		
37804	03/03/2022	Wattifi Inc.	\$11,649.31	1109	Printed	Expense	<input type="checkbox"/>	electricity "supply"	
37805	03/03/2022	WEST MUSIC	\$667.37	1109	Printed	Expense	<input type="checkbox"/>		
37806	03/03/2022	WILSON LANGUAGE TRAINING	\$2,558.52	1109	Printed	Expense	<input type="checkbox"/>	Foundations workbooks	

Total Amount:

\$176,090.01

End of Report

Westbrook Public Schools

Check Listing

Fiscal Year: 2021-2022

Criteria:

Bank Account: GEN FUND AP 211170114

From Date: 3/17/2022

From Check: 37807

From Voucher: 1118

To Date: 3/17/2022

To Check: 37852

To Voucher: 1118

Check Number	Date	Payee	Amount	Voucher	Status	Type	Cleared?	Clear Date	Void Date
37807	03/17/2022	ADM. UNEMPL. COMP. ACT	\$1,368.00	1118	Printed	Expense	<input type="checkbox"/>	unemployment payment	
37808	03/17/2022	AEP CONNECTIONS, LLC	\$120.00	1118	Printed	Expense	<input type="checkbox"/>		
37809	03/17/2022	BEACON ATHLETICS	\$4,628.74	1118	Printed	Expense	<input type="checkbox"/>	batting net / storage container	
37810	03/17/2022	CABE, INC.	\$149.50	1118	Printed	Expense	<input type="checkbox"/>		
37811	03/17/2022	CBS BLOOM'S BUSINESS SYSTEMS, INC.	\$180.00	1118	Printed	Expense	<input type="checkbox"/>		
37812	03/17/2022	CBS THERAPY	\$10,716.00	1118	Printed	Expense	<input type="checkbox"/>	para coverage	
37813	03/17/2022	CHSCA	\$50.00	1118	Printed	Expense	<input type="checkbox"/>		
37814	03/17/2022	CIAC	\$290.00	1118	Printed	Expense	<input type="checkbox"/>		
37815	03/17/2022	CITIZENS BANK-MASTERCARD	\$444.59	1118	Printed	Expense	<input type="checkbox"/>	ACA reporting, Indeed	
37816	03/17/2022	COLLINS SPORTS MEDICINE	\$123.04	1118	Printed	Expense	<input type="checkbox"/>		
37817	03/17/2022	COMMERCIAL BANKING	\$63.45	1118	Printed	Expense	<input type="checkbox"/>		
37818	03/17/2022	COMMON CENTS EMS SUPPLY	\$1,125.00	1118	Printed	Expense	<input type="checkbox"/>	Epi pens	
37819	03/17/2022	CONNECTICUT MUSIC CO	\$935.50	1118	Printed	Expense	<input type="checkbox"/>		
37820	03/17/2022	CORWIN	\$34.27	1118	Printed	Expense	<input type="checkbox"/>		
37821	03/17/2022	DELTA-T GROUP HARTFORD, INC.	\$1,342.71	1118	Printed	Expense	<input type="checkbox"/>	para coverage	
37822	03/17/2022	DIGITAL BACKOFFICE	\$300.00	1118	Printed	Expense	<input type="checkbox"/>		
37823	03/17/2022	DINN BROS	\$67.30	1118	Printed	Expense	<input type="checkbox"/>		
37824	03/17/2022	DUGMORE & DUNCAN INC.	\$360.95	1118	Printed	Expense	<input type="checkbox"/>		
37825	03/17/2022	EB EXTERMINATING CO.	\$192.00	1118	Printed	Expense	<input type="checkbox"/>		
37826	03/17/2022	ENVIRONMENTAL CONSULTING	\$820.00	1118	Printed	Expense	<input type="checkbox"/>		
37827	03/17/2022	FEDERAL EXPRESS	\$76.14	1118	Printed	Expense	<input type="checkbox"/>		
37828	03/17/2022	FOLLETT SCHOOL SOLUTIONS, INC.	\$633.03	1118	Printed	Expense	<input type="checkbox"/>		
37829	03/17/2022	[REDACTED]	\$10,430.00	1118	Printed	Expense	<input type="checkbox"/>	spec. ed. tuition	

Westbrook Public Schools

Check Listing

Fiscal Year: 2021-2022

Criteria:

Bank Account: GEN FUND AP 211170114

From Date: 3/17/2022
From Check: 37807
From Voucher: 1118

To Date: 3/17/2022
To Check: 37852
To Voucher: 1118

Check Number	Date	Payee	Amount	Voucher	Status	Type	Cleared?	Clear Date	Void Date
37830	03/17/2022	HOME DEPOT	\$433.95	1118	Printed	Expense	<input type="checkbox"/>		
37831	03/17/2022	[REDACTED]	\$7,115.56	1118	Printed	Expense	<input type="checkbox"/>		spec. ed. tuition
37832	03/17/2022	J.W. PEPPER & SON INC.	\$286.49	1118	Printed	Expense	<input type="checkbox"/>		
37833	03/17/2022	KELLY SERVICES INC.	\$2,657.56	1118	Printed	Expense	<input type="checkbox"/>		substitutes
37834	03/17/2022	LANGUAGE LINE SERVICES, INC.	\$580.98	1118	Printed	Expense	<input type="checkbox"/>		
37835	03/17/2022	LEONARD SAFETY EQUIPMENT, INC.	\$276.00	1118	Printed	Expense	<input type="checkbox"/>		late bus vinyl/volat
37836	03/17/2022	M & J BUS, INC.	\$70,611.55	1118	Printed	Expense	<input type="checkbox"/>		spec. ed. and regular runs
37837	03/17/2022	M.D. STETSON COMPANY INC.	\$1,033.32	1118	Printed	Expense	<input type="checkbox"/>		
37838	03/17/2022	MMSG	\$178.12	1118	Printed	Expense	<input type="checkbox"/>		
37839	03/17/2022	[REDACTED]	\$13,294.00	1118	Printed	Expense	<input type="checkbox"/>		spec. ed. tuition
37840	03/17/2022	PETTY CASH	\$56.17	1118	Printed	Expense	<input type="checkbox"/>		
37841	03/17/2022	[REDACTED]	\$1,839.96	1118	Printed	Expense	<input type="checkbox"/>		spec. ed. tuition
37842	03/17/2022	S&S WORLDWIDE	\$309.96	1118	Printed	Expense	<input type="checkbox"/>		
37843	03/17/2022	SAYBROOK HARDWARE	\$24.57	1118	Printed	Expense	<input type="checkbox"/>		
37844	03/17/2022	SHOPRITE OF WEST HAVEN	\$644.91	1118	Printed	Expense	<input type="checkbox"/>		
37845	03/17/2022	SOLANT HEALTH, LLC.	\$4,413.51	1118	Printed	Expense	<input type="checkbox"/>		para coverage
37846	03/17/2022	SOUTHERN CT GAS CO	\$1,948.80	1118	Printed	Expense	<input type="checkbox"/>		NG "generation"
37847	03/17/2022	STEWART'S MUSIC	\$460.00	1118	Printed	Expense	<input type="checkbox"/>		
37848	03/17/2022	SUBURBAN STATIONERS	\$1,202.96	1118	Printed	Expense	<input type="checkbox"/>		MS office, central office supplies
37849	03/17/2022	THE HUNTINGTON NATIONAL BANK	\$6,946.56	1118	Printed	Expense	<input type="checkbox"/>		Madison Solar net metering
37850	03/17/2022	UPS	\$167.17	1118	Printed	Expense	<input type="checkbox"/>		
37851	03/17/2022	Wattifi Inc.	\$10,413.13	1118	Printed	Expense	<input type="checkbox"/>		electricity "supply"
37852	03/17/2022	WESTERN PSYCH SERVICES	\$44.95	1118	Printed	Expense	<input type="checkbox"/>		

Westbrook Public Schools

Check Listing

Fiscal Year: 2021-2022

Criteria:

Bank Account: GEN FUND AP 211170114

From Date: 3/17/2022

To Date: 3/17/2022

From Check: 37807

To Check: 37852

From Voucher: 1118

To Voucher: 1118

Total Amount: \$159,390.40

End of Report

Westbrook Public Schools

Check Listing

Fiscal Year: 2021-2022

Criteria:

Bank Account: GEN FUND AP 211170114

From Date: 3/31/2022

From Check: 37853

From Voucher: 1124

To Date: 3/31/2022

To Check: 37901

To Voucher: 1124

Check Number	Date	Payee	Amount	Voucher	Status	Type	Cleared?	Clear Date	Void Date
37853	03/31/2022	ADP, INC	\$1,647.92	1124	Printed	Expense	<input type="checkbox"/>	VOID	
37854	03/31/2022	ALL WASTE, INC.	\$2,395.60	1124	Printed	Expense	<input type="checkbox"/>	Trash removal	
37855	03/31/2022	ALLSTON SUPPLY CO., INC.	\$248.90	1124	Printed	Expense	<input type="checkbox"/>	Daisy - area rug, spec. ed. supplies;	
37856	03/31/2022	AMAZON CREDIT PLAN	\$2,088.59	1124	Printed	Expense	<input type="checkbox"/>	MS - library books, sports supplies;	
37857	03/31/2022	BRAIN POP	\$7,437.50	1124	Printed	Expense	<input type="checkbox"/>	MS - tech ed, sports, science, bus. ed., music	
37858	03/31/2022	CABE, INC.	\$75.00	1124	Printed	Expense	<input type="checkbox"/>	software renewal	
37859	03/31/2022	CDWG GOVERNMENT, INC.	\$1,487.84	1124	Printed	Expense	<input type="checkbox"/>	SQL server license	
37860	03/31/2022	CHROMEBOOKPARTS.COM	\$149.70	1124	Printed	Expense	<input type="checkbox"/>		
37861	03/31/2022	CIAC	\$200.00	1124	Printed	Expense	<input type="checkbox"/>		
37862	03/31/2022	CIT TECHNOLOGY FIN SERV., INC.	\$7,947.46	1124	Printed	Expense	<input type="checkbox"/>	Copier agreement	
37863	03/31/2022	CMEA	\$160.00	1124	Printed	Expense	<input type="checkbox"/>		
37864	03/31/2022	CONN. WATER CO.	\$894.93	1124	Printed	Expense	<input type="checkbox"/>		
37865	03/31/2022	DELTA-T GROUP HARTFORD, INC.	\$2,474.53	1124	Printed	Expense	<input type="checkbox"/>	substitute para's	
37866	03/31/2022	DINN BROS	\$9.70	1124	Printed	Expense	<input type="checkbox"/>		
37867	03/31/2022	DR. ADAM PERRIN	\$3,800.00	1124	Printed	Expense	<input type="checkbox"/>	District Medical Advisor	
37868	03/31/2022	EB EXTERMINATING CO.	\$113.00	1124	Printed	Expense	<input type="checkbox"/>		
37869	03/31/2022	EVERSOURCE	\$5,837.07	1124	Printed	Expense	<input type="checkbox"/>	Electricity "delivery"	
37870	03/31/2022	FOOD EQUIPMENT SPECIALISTS	\$1,167.00	1124	Printed	Expense	<input type="checkbox"/>	Dishwasher repair (Daisy) new compressor	
37871	03/31/2022	FRONTIER	\$790.87	1124	Printed	Expense	<input type="checkbox"/>	MS cooler	
37872	03/31/2022	FRONTLINE TECHNOLOGIES GROUP LLC	\$2,388.06	1124	Printed	Expense	<input type="checkbox"/>	"Appl. track" renewal	
37873	03/31/2022	[REDACTED]	\$8,530.00	1124	Printed	Expense	<input type="checkbox"/>	spec. ed. tuition	
37874	03/31/2022	JACKLYN A BELMONTE	\$200.00	1124	Printed	Expense	<input type="checkbox"/>		
37875	03/31/2022	KELLY SERVICES INC.	\$3,360.07	1124	Printed	Expense	<input type="checkbox"/>	substitutes	

Westbrook Public Schools

Check Listing

Fiscal Year: 2021-2022

Criteria:

Bank Account: GEN FUND AP 211170114

From Date: 3/31/2022
From Check: 37853
From Voucher: 1124

To Date: 3/31/2022
To Check: 37901
To Voucher: 1124

Check Number	Date	Payee	Amount	Voucher	Status	Type	Cleared?	Clear Date	Void Date
37876	03/31/2022	M.D. STETSON COMPANY INC.	\$1,042.78	1124	Printed	Expense	<input type="checkbox"/>	custodial supplies	
37877	03/31/2022	MARKS PLUMBING PARTS	\$61.58	1124	Printed	Expense	<input type="checkbox"/>		
37878	03/31/2022	MDLSEX COUNTY MATH LEAGUE	\$46.50	1124	Printed	Expense	<input type="checkbox"/>		
37879	03/31/2022	MJ DALY	\$1,280.00	1124	Printed	Expense	<input type="checkbox"/>	Repair backflow valve/line	
37880	03/31/2022	MUTUAL OF OMAHA	\$1,939.66	1124	Printed	Expense	<input type="checkbox"/>	life insurance premium	
37881	03/31/2022	PEARSON CLINICAL ASSESSMENT	\$74.60	1124	Printed	Expense	<input type="checkbox"/>		
37882	03/31/2022	PITNEY BOWES	\$89.97	1124	Printed	Expense	<input type="checkbox"/>		
37883	03/31/2022	SAYBROOK HARDWARE	\$169.20	1124	Printed	Expense	<input type="checkbox"/>		
37884	03/31/2022	SECURLY INC.	\$560.00	1124	Printed	Expense	<input type="checkbox"/>		
37885	03/31/2022	SHANNON BROOKE	\$1,520.00	1124	Printed	Expense	<input type="checkbox"/>	speech services	
37886	03/31/2022	SOLANT HEALTH, LLC.	\$2,352.26	1124	Printed	Expense	<input type="checkbox"/>	para coverage	
37887	03/31/2022	SOUTHERN CT GAS CO	\$42.97	1124	Printed	Expense	<input type="checkbox"/>		
37888	03/31/2022	SPRAGUE OPERATING RESOURCES LLC LOCKBOX	\$15,196.73	1124	Printed	Expense	<input type="checkbox"/>	NG "supply"	
37889	03/31/2022	STOP & SHOP SUPERMARKET	\$200.00	1124	Printed	Expense	<input type="checkbox"/>		
37890	03/31/2022	SUBURBAN STATIONERS	\$329.91	1124	Printed	Expense	<input type="checkbox"/>		
37891	03/31/2022	TARA WINCH	\$513.21	1124	Printed	Expense	<input type="checkbox"/>		
37892	03/31/2022	TEACHER SYNERGY LLC.	\$128.49	1124	Printed	Expense	<input type="checkbox"/>		
37893	03/31/2022	TECHNIQUE PRINTERS	\$165.00	1124	Printed	Expense	<input type="checkbox"/>		
37894	03/31/2022	THE COLLEGE BOARD	\$581.40	1124	Printed	Expense	<input type="checkbox"/>		
37895	03/31/2022	THE HUNTINGTON NATIONAL BANK	\$8,856.87	1124	Printed	Expense	<input type="checkbox"/>	solar credits	
37896	03/31/2022	THE INSTRUMENTALIST AWARDS	\$386.00	1124	Printed	Expense	<input type="checkbox"/>		
37897	03/31/2022	THE NIXON COMPANY	\$8.00	1124	Printed	Expense	<input type="checkbox"/>		
37898	03/31/2022	TRIBALANCE HEALTH, LLC	\$560.00	1124	Printed	Expense	<input type="checkbox"/>		

Westbrook Public Schools

Check Listing

Fiscal Year: 2021-2022

Criteria:

Bank Account: GEN FUND AP 211170114

From Date: 3/31/2022

To Date: 3/31/2022

From Check: 37853

To Check: 37901

From Voucher: 1124

To Voucher: 1124

Check Number	Date	Payee	Amount	Voucher	Status	Type	Cleared?	Clear Date	Void Date
37899	03/31/2022	VERIZONWIRELESS	\$245.09	1124	Printed	Expense	<input type="checkbox"/>		
37900	03/31/2022	WALMART - CAPITAL ONE	\$281.76	1124	Printed	Expense	<input type="checkbox"/>		
37901	03/31/2022	WEST MUSIC	\$33.65	1124	Printed	Expense	<input type="checkbox"/>		

Total Amount: \$90,069.37

End of Report

**Budget Narrative
March 31, 2022**

Salary Accounts- The initial place holding payroll encumbrance has been updated. Any vacant/unfilled positions have been released from the purchase order for the time being. If positions are filled, it will be updated accordingly. Grant funded work continues to flow through the general fund payroll and offsets may not be completed within the same month. These accounts will continue to be monitored closely.

Benefits - Associated Social Security/Medicare costs, as well as the health and life insurance figures for known personnel have been reviewed. All HSA contributions have been made. All waiver payments have been made. Applicable employee cost shares have now been calculated and the purchase order for health insurance has been adjusted.

Transportation- Summer School/ ESY (Extended School Year) have all be paid and annual purchase orders have been entered. Further adjustments will be based on student need.

Purchased Services-Annual building maintenance contracts and other annual blanket purchase orders have been entered. Deficit in *Professional Services* will be covered by the balance from the Salary accounts.

79 ***Tuition-*** Summer School/ ESY (Extended School Year) contracts have been paid and annual student placements have been entered. Further adjustments will be based on student need.

Supplies- Materials requested to date have been ordered. All other orders are being processed as needed.

Properties (equipment) – All requests to date have been ordered.

4/7/2022

LEW

Westbrook Public Schools

Financial Statement For the Period 07/01/2021 through 03/31/2022

Fiscal Year: 2021-2022

☐ Include Pre Encumbrance

	<u>Budget</u>	<u>Range To Date</u>	<u>Year To Date</u>	<u>Balance</u>	<u>Encumbrance</u>	<u>Budget Balance</u>	
EXPENSES							
Salaries							
All Wages (+)	\$11,664,189.63	\$8,338,375.83	\$8,338,375.83	\$3,325,813.80	\$3,057,254.88	\$268,558.92	2.3%
Sub-total : Salaries	\$11,664,189.63	\$8,338,375.83	\$8,338,375.83	\$3,325,813.80	\$3,057,254.88	\$268,558.92	2.3%
Benefits							
All Benefits (+)	\$2,467,881.48	\$2,152,392.49	\$2,152,392.49	\$315,488.99	\$308,545.61	\$6,943.38	0.3%
Sub-total : Benefits	\$2,467,881.48	\$2,152,392.49	\$2,152,392.49	\$315,488.99	\$308,545.61	\$6,943.38	0.3%
Professional Services							
Professional Services (+)	\$820,932.62	\$702,017.11	\$702,017.11	\$118,915.51	\$271,958.70	(\$153,043.19)	-18.6%
Sub-total : Professional Services	\$820,932.62	\$702,017.11	\$702,017.11	\$118,915.51	\$271,958.70	(\$153,043.19)	18.6%
Purch. Services- BLDG							
Bldg Services (+)	\$398,806.49	\$244,343.66	\$244,343.66	\$154,462.83	\$40,794.51	\$113,668.32	28.5%
Sub-total : Purch. Services- BLDG	\$398,806.49	\$244,343.66	\$244,343.66	\$154,462.83	\$40,794.51	\$113,668.32	28.5%
Transportation							
Transportation Services (+)	\$868,602.00	\$542,346.89	\$542,346.89	\$326,255.11	\$298,980.84	\$27,274.27	3.1%
Sub-total : Transportation	\$868,602.00	\$542,346.89	\$542,346.89	\$326,255.11	\$298,980.84	\$27,274.27	3.1%
Purchased Services							
Other Services (+)	\$146,232.34	\$75,224.25	\$75,224.25	\$71,008.09	\$13,661.35	\$57,346.74	39.2%
Sub-total : Purchased Services	\$146,232.34	\$75,224.25	\$75,224.25	\$71,008.09	\$13,661.35	\$57,346.74	39.2%
Tuition							
All Tuitions (+)	\$924,277.64	\$490,817.65	\$490,817.65	\$433,459.99	\$191,782.02	\$241,677.97	26.1%
Sub-total : Tuition	\$924,277.64	\$490,817.65	\$490,817.65	\$433,459.99	\$191,782.02	\$241,677.97	26.1%
Supplies							
All Supplies (+)	\$999,845.75	\$637,633.90	\$637,633.90	\$362,211.85	\$358,382.24	\$3,829.61	0.4%
Sub-total : Supplies	\$999,845.75	\$637,633.90	\$637,633.90	\$362,211.85	\$358,382.24	\$3,829.61	0.4%
Property							
Equipment (+)	\$221,560.00	\$88,808.01	\$88,808.01	\$132,751.99	\$75,342.56	\$57,409.43	25.9%

Operating Statement with Encumbrance

Westbrook Public Schools

Financial Statement For the Period 07/01/2021 through 03/31/2022

Fiscal Year: 2021-2022

☐ Include Pre Encumbrance

	<u>Budget</u>	<u>Range To Date</u>	<u>Year To Date</u>	<u>Balance</u>	<u>Encumbrance</u>	<u>Budget Balance</u>	
Sub-total : Property	\$221,560.00	\$88,808.01	\$88,808.01	\$132,751.99	\$75,342.56	\$57,409.43	25.9%
Total : EXPENSES	\$18,512,327.95	\$13,271,959.79	\$13,271,959.79	\$5,240,368.16	\$4,616,702.71	\$623,665.45	3.4%
NET ADDITION/(DEFICIT)	\$18,512,327.95	\$13,271,959.79	\$13,271,959.79	\$5,240,368.16	\$4,616,702.71	\$623,665.45	3.4%

End of Report

Operating Statement with Encumbrance

New Vendors- March

CentralReach LLC - EL supplies

Wale Apparatus Co. Inc. – HS science supplies

Moulton Sound -MS drama (sound equipment)

FM Productions LLC – DJ Prom 2022

Vex Robotics Inc. – HS robotics supplies

The Pulsera Project – HS fundraiser

Zuse Inc.- HS school store

CT Women's Consortium - PD

4/7/2022

L.E.W.

Funding Westbrook Board of Education

\$125,000 Individual Stop-Loss

Expected Claims and Fees Based on 138 Medical Contracts and 144 Dental Contracts; Actual Claims and Fees Based on Actual Contracts

July 1, 2021 through June 30, 2022

July 1, 2021 through June 30, 2022 Overall Fund Analysis - Board of Education Only

	1	1a	1b	2	3	4	5	6	7	8	9	10	11	12	13	14
	Board Monthly Funding	Board Amount Borrowed from Reserve	Total Board Funding (Board Funding Plus Amount from Reserve)	Board Projected Expected Medical Claims	Board Actual Incurred & Paid Medical Claims	Board Projected Expected Rx Claims	Board Actual Incurred & Paid Rx Claims	Board Projected Expected Dental Claims	Board Actual Incurred & Paid Dental Claims	Board Actual Paid Discount Share*	Board Expected Retention Costs (includes actual Discount Share, Broker Service Fee and ACA Taxes)	Board Actual Paid Retention Costs (includes actual Discount Share, Broker Service Fee and ACA Taxes)	Claims over \$125,000 stop-loss paid by S/L Insurance	Board Actual Monthly Out-of-Pocket Costs	Board Medical & Rx Claims Loss Ratio Only	Board Surplus or (Deficit) Total Claims and Fees
Jul-21	\$202,746	\$53,774	\$256,520	\$146,547	\$212,539	\$48,849	\$34,661	\$8,866	\$10,589	\$8,672	\$61,682	\$53,743	\$0	\$313,652	133.3%	(\$55,112)
Aug-21	\$202,746	\$53,774	\$256,520	\$146,547	\$239,203	\$48,849	\$62,086	\$8,866	\$10,956	\$11,436	\$64,397	\$55,210	(\$140,098)	\$728,360	165.2%	\$28,160
Sep-21	\$202,747	\$53,774	\$256,521	\$146,547	\$84,722	\$48,849	\$46,029	\$8,866	\$4,238	\$9,166	\$62,227	\$54,094	(\$1,987)	\$187,095	70.8%	\$69,426
Oct-21	\$202,748	\$53,774	\$256,522	\$146,547	\$63,320	\$48,849	\$55,368	\$8,866	\$6,552	\$4,150	\$57,240	\$49,754	(\$1,983)	\$173,142	62.6%	\$83,380
Nov-21	\$202,749	\$53,774	\$256,523	\$146,547	\$49,749	\$48,849	\$118,232	\$8,866	\$9,212	\$1,892	\$56,952	\$49,467	(\$2,087)	\$264,993	118.5%	(\$8,469)
Dec-21	\$202,750	\$53,774	\$256,524	\$146,547	\$130,660	\$48,849	\$69,774	\$8,866	\$6,261	\$3,892	\$56,952	\$49,467	(\$30,876)	\$225,455	106.54%	\$31,839
Jan-22	\$202,751	\$53,774	\$256,525	\$146,547	\$129,790	\$48,849	\$78,552	\$8,866	\$7,072	\$3,892	\$56,952	\$48,819	(\$23,510)	\$241,113	112.53%	\$15,412
Feb-22	\$202,752	\$53,774	\$256,526	\$146,547	\$100,785	\$48,849	\$62,196	\$8,866	\$11,737	\$3,892	\$56,952	\$49,145	(\$24,313)	\$199,553	87.20%	\$56,973
Mar-22																
Apr-22																
May-22																
Jun-22																
TOTALS	\$1,621,989	\$430,193	\$2,052,182	\$1,172,373	\$1,851,658	\$390,791	\$527,118	\$70,929	\$67,347	\$48,971	\$473,456	\$418,893	(\$74,564)	\$1,831,372	90.6%	\$220,809

Column 1 - Monthly Funding (included amount transferred from reserves)

Column 2 - Projected Expected Medical Claims by Month (based on contracts at renewal)

Column 3 - Actual Incurred and Paid Medical Claims by Month including claims over the stop-loss (stop-loss claims are removed in #11)

Column 4 - Projected Expected Rx Claims by Month (based on contracts at renewal)

Column 5 - Actual Incurred and Paid Rx Claims by Month

Column 6 - Projected Expected Dental Claims by Month (based on contracts at renewal)

Column 7 - Actual Incurred and Paid Dental Claims by Month

Column 8 - Actual Anthem Discount Share Paid by Month

Column 9 - Projected Expected Retention Costs by Month (based on contracts at renewal)

Column 10 - Actual Total Paid Retention Costs (Administrative Costs) by Month

Column 11 - Claims Incurred over \$125,000 and paid by Stop-Loss Insurance

Column 12 - Actual Total OUT-OF-POCKET COSTS (Column 3 minus Column 8, plus Columns 5, 6, and 7)

Column 13 - Medical Loss Ratio by Month by Total Costs. Actual Medical & Rx Claims minus Any Large Claims Over the Stop-Loss divided by the Expected Medical & Rx Claims

Column 14 - The Surplus or (Deficit) by Month

\$17.09 Broker Service Fee PEP (Employee)

\$0.56 PCORI PEP (Employee) - July-June

(figures included in columns 9 and 10 above)

\$2,392.60 Total Monthly For Broker Service Fee

\$78.40 Jul-Jun PCORI Taxes per Month



ENCLOSURE 6

Westbrook Board of Education Schedule of Monthly Tasks and Topics (Anticipated)

The following is a working guide for potential topics covered by the Westbrook Board of Education throughout the year.

Month	Board of Education Agenda Focus
September	<ul style="list-style-type: none"> • BOE Roles and Responsibilities Workshop • New Staff Welcome and Meet & Greet • Draft of BOE Budget Guidelines (Discussion)
October	<ul style="list-style-type: none"> • Westbrook Portrait of a Graduate Update • Graduate Profile • Curriculum and Professional Development Updates • BOE Budget Guidelines (Anticipated Vote) • School Opening Updates
November	<ul style="list-style-type: none"> • BOE Meet and Greet for Community • Spring Assessment Results and Action Plans • Budget Preview & Process Overview • Special Education Update
December	<ul style="list-style-type: none"> • Election of BOE Officers (Chair, Vice-Chair, & Secretary) • BOE Committee Reassignments • Budget Process Update • NESDEC Enrollment Update • District Calendar Preview (First Reading)
January	<ul style="list-style-type: none"> • District Calendar (Anticipated Vote) • Superintendent's Budget Preview (Public Input)
February	<ul style="list-style-type: none"> • Superintendent's Proposed Budget (Anticipated Vote) • Connecticut General Assembly Update
March	<ul style="list-style-type: none"> • Superintendent's Mid-Year Goals Update (Executive Session) • Principal Updates on Teaching and Learning
April	<ul style="list-style-type: none"> • Special Education Update • Curriculum and Professional Development Update • Evaluation of Legal Counsel
May	<ul style="list-style-type: none"> • Superintendent Evaluation - End of Year in Review (Executive Session) • BOE Self-Evaluation and Retreat
June	<ul style="list-style-type: none"> • End of Year Activities and Graduation Update • Approval of BOE Goals • Approval of BOE Meeting Dates • Superintendent Evaluation (Executive Session)
July	<ul style="list-style-type: none"> • No anticipated meeting unless needed
August	<ul style="list-style-type: none"> • BOE Policy Recap and Policy Goals • Legislative Update and Impact • Superintendent Goals • Year End Financial Summary • Summer School Update



EDUCATION JF

SB 1 AN ACT CONCERNING CHILDHOOD MENTAL AND PHYSICAL HEALTH SERVICES IN SCHOOL.

- SDE develop survey concerning the employment of school social workers, school psychologists, school counselors and school nurses.
- SDE administer grant program for hiring and retaining additional school social workers and school psychologists, school counselors and school nurses. St. BOE upon request of BOE or RESC may issue a human services permit to applicant with specialized training, experience or expertise in social work, human services psychology or sociology.
- SDE in collaboration shall develop mental health plan to raise awareness of mental health resources available to student athletes.
- St. BOE consulting with DPH shall adopt regulations on conditions and procedures for the storage and administration of opioid antagonists by school personnel; a school nurse or in the absence of school nurse, a qualified school employee may maintain opioid antagonists for the purpose of emergency first aid.
- Establishes a minority teacher candidate scholarship program.
- Establishes a task force to combat ableism to identify current efforts to educate all students on disabilities and combat ableism.
- Establishes a task force to study the governance structure and internal procedures of the CIAC.
- Commissioner of Early Childhood shall coordinate with school readiness councils to conduct needs assessment for spaces. **JFS to APP**

SB 226 AN ACT IMPLEMENTING THE RECOMMENDATIONS OF THE DEPARTMENT OF EDUCATION, to extend the term of validity for a professional educator certificate from five years to ten years, to authorize the reissuance of an initial and provisional educator certificate under the preparation and eligibility requirements in effect at the time the certificate was originally issued in certain circumstances, to delay the deadline for the development of the model curriculum by one year and to require a progress report on its development, and to authorize the Commissioner of Education to temporarily waive or modify state feeding program requirements in response to any

changes in federal law. **JF**

SB 227 AN ACT CONCERNING MAGNET SCHOOL PROGRAM FUNDING, to increase the funding for interdistrict magnet schools by eight per cent. **JF to APP**

SB 228 AN ACT CONCERNING OPPORTUNITIES FOR STUDENTS TO PARTICIPATE IN PATHWAYS PROGRAMS AND THE PROVISION OF INFORMATION ABOUT THE AVAILABILITY OF TECHNICAL EDUCATION AND CAREER SCHOOLS AND REGIONAL AGRICULTURAL SCIENCE AND TECHNOLOGY EDUCATION CENTERS, to require the Department of Education to administer the Pipeline for Connecticut's Future program in which the department will assist local and regional boards of education in enhancing existing partnerships or establishing new partnerships with one or more local businesses to offer a pathways program, and to require school counselors to provide information to students in middle school and high school about technical education and career schools and regional agricultural science and technology education centers. **JF to APP**

SB 229 AN ACT CONCERNING THE CHARTER SCHOOL APPROVAL PROCESS, to establish a charter school approval grant account for the purpose of funding new charter schools. FY ending 6/30/23 and thereafter, St. BOE shall not approve more than 2 applications for new charter schools in any fiscal year. **JFS to APP**

SB 230 AN ACT CONCERNING PUBLIC EDUCATION IN THE STATE. Placeholder
JF

SB 231 AN ACT CONCERNING THE STATE EDUCATION RESOURCE CENTER, to make certain revisions to the enabling statute of the State Education Resource Center and to require the Commissioner of Education to allocate funding to the center that is sufficient for the center to operate and perform its duties. **JFS to APP**

SB 232 AN ACT CONCERNING THE EXCESS COST GRANT FOR SPECIAL EDUCATION, to replace the existing threshold for the excess cost grant for special education with 80-100% of eligible cost based on the property wealth of a town. **JFS to APP**

SB 273 AN ACT CONCERNING TEACHER CERTIFICATION, to require the Department of Education to conduct a review of the teacher certification statutes and regulations and to make recommendations on how such statutes and recommendations can be amended to eliminate obsolete requirements and update existing provisions to adapt to the academic needs of students in the twenty-first century and provide the flexibility needed to recruit and certify teachers in Connecticut. A career and technical pathways instructor permit for manufacturing, allied health, computer technology engineering or any construction trade can be issued for local schools or RESC's, would be 20 hours a week, have an AA in field and 2years experience. It would be valid July 2022-July 2023. **JFS to APP**

SB 274 AN ACT CONCERNING MINORITY TEACHER RECRUITMENT AND RETENTION, to study and evaluate the implementation and effectiveness of existing minority teacher recruitment and retention programs and policies and other issues relating to minority teacher recruitment and retention in the state. The Task Force to Diversify the Educator Workforce shall be a member of the Performance Evaluation Advisory Council and the Minority Teacher Recruitment Policy Oversight Council. **JFS**

SB 427 AN ACT CONCERNING VARIOUS REVISIONS AND ADDITIONS TO THE EDUCATION STATUTES, to include Guilford as a participant in the open choice program for the New Haven region, and to create a school bus driver rebate program as an incentive to recruit new school bus drivers. Establishes the State Teacher Shortage and Retention Task Force. Report on attrition rates, shortages across subject matter disciplines, impact in financially distressed districts and streamlining certification without diminishing standards or the professional value of a teaching certificate. **JFS to APP**

SB 428 AN ACT IMPLEMENTING THE RECOMMENDATIONS OF THE DEPARTMENT OF ADMINISTRATIVE SERVICES RELATING TO SCHOOL CONSTRUCTION, to (1) eliminate the provision allowing construction managers to self-perform on school construction contracts, (2) require the invitation of bids through the State Contracting Portal instead of local newspapers, and (3) make other revisions to the school construction grant program process and requirements.

- HVAC grants 20-80%
- 5% increase if with minority business for maintenance
- Removes school security and administration facility from school construction grants
- 3 years to complete project
- Eliminates School Safety Infrastructure Council

JFS

SB 429 AN ACT CONCERNING AUTHORIZATION OF STATE GRANT COMMITMENTS FOR SCHOOL BUILDING PROJECTS AND REVISIONS TO THE SCHOOL BUILDING PROJECTS STATUTES, to authorize state grant commitments for school building projects; to require that all plans for a school building project submitted on and after July 1, 2023, provide for the installation of at least one window that opens in each classroom; and to permit magnet school operators to participate in the school building project grant program. Projects authorized on or after 7/1/24 increase by 5% points if contractor reserves 12.5% for awards to subcontractor who are minority business enterprise. **JFS to Fin**

**HB 5038 AN ACT IMPLEMENTING THE GOVERNOR'S BUDGET
RECOMMENDATIONS CONCERNING EDUCATION.**

- ECS funding continues at the FY 2021 level, the ten-year phase in/out commitment ends in 2030.
- Alliance district funding is reauthorized for another 5 years and a new category is established-Graduated Alliance District.

To close out the Sheff case, \$26.2 million in FY 2023 has been proposed. It increases by \$2,000 per pupil. It will fund approximately 1,497 seats for Hartford students by 2029, and in the near term, 440 seats for Hartford students in FY 2023. **JFS to APP**

HB 5239 AN ACT CONCERNING ACCOMMODATIONS FOR ENGLISH LANGUAGE LEARNERS. Shall offer reasonable accommodations on testing, assessments and other school work to any student who is an English language learner. Such accommodations may include, but need not be limited to, additional time to complete school work, tests or assessments in a student's native language, and a program of bilingual education or an English as a second language program. **JF**

HB 5279 AN ACT IMPLEMENTING THE RECOMMENDATIONS OF THE OFFICE OF EARLY CHILDHOOD, to expand the membership of the Early Childhood Cabinet, to authorize the Office of Early Childhood to amend the standards for school readiness programs in certain circumstance, to revise the definition of youth camp to delete the requirement that a youth camp advertises as a camp, to update the reference to the Connecticut Criminal History Request System in the statute background checks, and to extend the term of validity for the early childhood teacher credential. **JFS**

HB 5280 AN ACT CONCERNING THE PROVISION OF BILINGUAL EDUCATION IN CONNECTICUT, to increase the per pupil grant amount for bilingual education and to establish a dual language seed grant program. **JF to APP**

HB 5281 AN ACT CONCERNING SCHOOLS. Placeholder **JF**

HB 5282 AN ACT CONCERNING THE INCLUSION OF ASIAN AMERICAN AND PACIFIC ISLANDER STUDIES IN THE PUBLIC SCHOOL CURRICULUM AND PROHIBITING THE DISAGGREGATION OF STUDENT DATA BY ETHNIC SUBGROUPS IN THE PUBLIC SCHOOL INFORMATION SYSTEM, to include the Asian American and Pacific Islander studies in the public school curriculum and to prohibit the collection of disaggregated student data on specific ethnic subgroups unless such student data is required by federal law or collected uniformly across the entire population of students. 7/1/25 **JFS to APP**

HB 5283 AN ACT CONCERNING THE EDUCATION COST SHARING GRANT FORMULA AND THE FUNDING OF OTHER EDUCATION PROGRAMS, to establish a new method of funding public education in the state. Fully funds ECS grants, effective FY 2025; Fully funds interdistrict magnet, Vo-Ag, Open Choice, and state charter

schools based on student needs; eliminates tuition billing for magnet school operators and Vo-Ag programs, effective FY 2025. Establishes task force on education funding specifically: alliance districts; how the accountability plan works with CT's federal education plans and leveraging the funding; identifying thresholds regarding accountability; compensation, benefits, retention and recruitment of teachers, paraprofessionals and social workers; restrictions and reporting requirements on magnets and vo-ag as in ECS grant. **JFS**

HB 5284 AN ACT CONCERNING THE FUNDING OF UNIFIED SCHOOL DISTRICT #1, to require the Department of Education, in consultation with the Department of Correction, to study and compare the funding levels of Unified School District #1 to those of other school districts. **JFS**

HB 5285 AN ACT CONCERNING THE PUBLIC SCHOOL CURRICULUM, to require that all school districts provide climate change instruction as part of the science curriculum, to establish a pilot program for the teaching of financial literacy and to establish the Connecticut Civics Education Task Force. **JF to APP**

HB 5286 AN ACT CONCERNING THE DEVELOPMENT OF A NEW PRESERVICE PERFORMANCE ASSESSMENT FOR TEACHER PREPARATION PROGRAMS, to cease implementation of edTPA and create a new state-wide preservice performance assessment for teacher preparation programs. **Dead**

HB 5287 AN ACT CONCERNING REMOTE LEARNING IN CONNECTICUT, to permit local and regional boards of education to authorize remote learning to students in grades kindergarten to twelve, beginning July, 2023. **JFS**

HB 5321 AN ACT IMPLEMENTING CERTAIN RECOMMENDATIONS OF THE SCHOOL PARAEDUCATOR ADVISORY COUNCIL. To establish a system of professional development for paraeducators, to convene a working group to develop recommendations for the creation of a system of professional certification for paraeducators and to require adequate notice and training about planning and placement team meetings and an opportunity to view an individualized education program plan. **JFS to APP**

HB 5323 AN ACT ESTABLISHING A WORKING GROUP TO EXAMINE WAYS TO CONSOLIDATE OR ELIMINATE CERTAIN PROFESSIONAL DEVELOPMENT AND IN-SERVICE TRAINING REQUIREMENTS FOR EDUCATORS, to establish a working group to examine ways to consolidate or eliminate unnecessary, obsolete or redundant professional development and in-service training requirements for educators. **JFS**

HB 5465 AN ACT INCREASING EARLY CHILDHOOD EDUCATOR SALARIES AND EXPANDING CHILD CARE OPPORTUNITIES FOR FAMILIES, to increase the salaries of early childhood educators by establishing the early childhood care and education salary enhancement grant program, to support existing school readiness and other

state- funded preschool programs by increasing rates and providing programmatic flexibility, and to provide additional child care opportunities for families by expanding the eligibility for the Care4Kids program and permitting the expansion of the number of children in family child care homes. **JFS to APP**

HB 5466 AN ACT CONCERNING ASSORTED REVISIONS AND ADDITIONS TO THE EDUCATION STATUTES, to (1) conduct a feasibility study of implementing recovery schools in the state; (2) permit the parent of a student to have access to such student's class rank; (3) add legislative appointments to the State Board of Education; (4) establish a working group to study the efficacy of throat guards in preventing catastrophic neck injuries to interscholastic, intramural and youth ice hockey athletes; and (5) extend the deadline for the special education task force to complete its work. **JFS to APP**