BRANFORD BOARD OF EDUCATION
TEACHING & LEARNING COMMITTEE MEETING

WEDNESDAY	**Walsh Intermediate School**
6:00 PM	**Collaboration & Innovation Center (Room 112)**
December 11, 2024	**185 Damascus Road, Branford CT**

To access and listen to this meeting please go to www.branfordschools.org

Community Agreement

The Board of Education is committed to supporting the mission, vision, core values and global learning competencies of the Branford Public Schools. We are here to provide access for all students in close collaboration with the Superintendent and in partnership with the larger community.

A G E N D A

I. Call to Order
II. Public Comment
III. Approval of Minutes
IV. Presentations
- **A. BHS New Course Proposals**
- **B. Proposed Enhancements to Early Childhood Education**

V. Adjourn

TO PARTICIPATE IN PUBLIC COMMENTS REMOTELY PLEASE CALL:
1 (646) 558-8656
Meeting ID: 815 6405 4671
Passcode: 812124

When participating by telephone please mute your phone when joining the meeting and unmute your phone when you are ready to speak. This can be done by pressing *6 on your phone's keypad.

Rules Governing Public Comments:

- Three minutes will be allotted to each speaker. The Board may modify this limitation at the beginning of a meeting if the number of persons wishing to speak makes it advisable to do so. (Board Bylaw 9325)
- Conduct intended primarily to disrupt the Board of Education meeting shall not be permitted. Any speaker who engages in such conduct will be warned and allowed to correct such conduct. If the speaker continues to engage in the disruptive conduct such will be grounds for termination of the speaker's privilege to participate in public comment and may be deemed grounds for removal from the meeting site.
- All speakers must identify themselves by name and address.

12.11.2024

Memo

To:
Branford Board of Education
Teaching & Learning Committee

From:
Allison K. Moran,
Assistant Superintendent of Schools

Re:
Branford High School Course Proposals

CC:
Christopher Tranberg, Ph.D.,
Superintendent of Schools

BHS Administration

Kathleen Wagner,
Director of Secondary Education

High School Course Proposals

This memo outlines proposed Branford High School courses from the Science, Career and Technical Education (CTE), Health/PE, World Language, and Art departments. These courses aim to address the diverse needs and interests of our students while preparing them for college and career pathways. Below is a summary of each proposal.

Science- Biology Honors
This is a rigorous biology course that covers topics in more depth and is specifically designed for students with strong backgrounds in both life science and math. This course is designed for college-bound students and serves as the foundation for Advanced Placement / Early College Experience Biology and AP Environmental Science. This course stresses the development of problem-solving skills and laboratory techniques. Mathematical formulas will be used throughout the year, and, therefore, it is necessary that students are able to independently calculate equations.
Biology Honors BPS New Course Proposal Form FINAL

Science- ECE Introduction to Allied Health Professions (UConn)
This is a half-year exploratory course in which students interested in pursuing college and a career in allied health professions will gain knowledge of the five allied health fields in terms of college

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requirements, licensing requirements, projected job opportunities, salaries, and job descriptions. Students will explore the five allied health pathways: Diagnostic, therapeutic, research and development, informatics, and support services. Students will complete occupational simulations in the classroom and interact with guest speakers from each pathway. *Students may earn two college credits through the University of Connecticut's Early College Experience (ECE) program.*
Intro to Allied Health_BPS New Course Proposal Form FINAL

Science- ECE Medical Terminology (UConn)
Medical terminology is a full-year course designed to develop language that will support students as they pursue a career or major in the health sciences. This course showcases medical language through the lens of each body system. As students navigate each body system, they build an understanding of the prefix, suffix and combine forms related to the system and the terms associated with common pathologies and diagnostics for that system. This course embeds multiple hands-on and virtual lab experiences to enhance their knowledge and class experience. Students will be expected to research and share their findings through case studies, projects, models, written and/or oral reports, and presentations. Students who successfully complete this course will be awarded UCONN credit.
Students may earn three college credits through the University of Connecticut's Early College Experience (ECE) program.
Medical Terminology_BPS New Course Proposal Form FINAL

CTE- Robotics Foundations
This course introduces students to the exciting world of robotics, focusing on essential concepts such as programming, mechanical design, and problem-solving, while also exploring careers related to robotics. Students will learn foundational skills in programming and mechanical systems using VEX V5 robots and will engage in team-based challenges to apply their knowledge in real-world contexts. Through hands-on projects and performance-based tasks, students will develop critical thinking, collaboration, and engineering skills. The course culminates in a final problem-solving challenge, allowing students to showcase their skills and creativity. Aligned with NGSS and STEL standards, Robotics Foundations requires no prerequisites and is accessible to all students interested in exploring the field.
BHS Robotics New Course Proposal FINAL

CTE- Residential Construction

This course provides students with the knowledge and skills necessary to design, plan, and construct residential structures. Through hands-on projects and real-world applications, students will learn about site planning, blueprint reading, foundation work, framing, roofing, and finishing techniques. Emphasis will be placed on safety practices, building codes, sustainability, and collaboration among stakeholders. Students will explore career opportunities in the construction industry and understand the impact of technological advancements on residential construction.
Residential Construction BPS New Course Proposal Form FINAL

Health- ECE Kinesiology: Exercise and Wellness For Everyone (UConn)
This course provides an overview of the five pillars of health (exercise, nutrition, sleep, stress and relationships) as well as the role of exercise in health promotion and disease prevention across the lifespan; impacts of exercise in leisure time, culture, community, careers and the workplace. Physical activity including aerobic exercise, yoga, and fitness will be included. Students will create, execute and monitor a personal wellness plan that includes exploring group and personal exercises, how those choices impact their emotional, psychological and social well-being. Students will pinpoint approaches for stress reduction and personal wellness. Students who successfully complete this course will be awarded UCONN credit.
Students may earn three college credits through the University of Connecticut's Early College Experience (ECE) program.
Kinesiology_BPS New Course Proposal Form FINAL

World Language- ECE Intermediate Spanish Composition (UConn)
This course is an advanced study of Spanish texts and extensive written practice in a variety of forms ranging from compositions, essays, summaries, and film reviews. Students are exposed to authentic content such as documentary videos, informational articles, cultural and literature readings, and audio, inspiring them to understand target cultures and communicate in Spanish through the perspectives of native speakers while building their own point of view. By the end of this course, students will develop the ability to communicate at an ACTFL intermediate high to advanced level of Spanish. Students will achieve intermediate to advanced proficiency in reading and writing in the language. They will acquire the ability to exchange opinions and compare products, practices, and perspectives in their own and other cultures. Students will recognize and respect the different cultural norms and traditions that exist among other cultures. They will develop the ability to interpret and discuss literature and film at an intermediate level.

Students may earn three college credits through the University of Connecticut's Early College Experience (ECE) program.
UConn ECE Spanish BPS New Course Proposal Form FINAL

Art- Art and Culture
This is a one-semester course that invites students in grades 9–12 to explore the profound connection between art and society. Through the study of major historical and contemporary art movements, students will gain insights into how art reflects cultural identities and values. The course emphasizes hands-on learning, encouraging students to create artworks that integrate personal expression with historical and cultural contexts. Alongside critical thinking and collaborative projects, students will develop technical skills in both traditional and digital art forms, such as mixed media and Adobe Photoshop. By fostering appreciation for diverse perspectives and artistic voices, this course aligns with National Art Standards and prepares students to engage thoughtfully with the global community through the lens of visual art.
Art and Culture BPS New Course Proposal Form FINAL

BRANFORD HIGH SCHOOL
NEW COURSE PROPOSAL FORM

Course Title: Honors Biology

Credit: 1.0

Credit Area(s): Science

Course Proposed by: Jocelyn Vennero-Wheaton and Suzanne Sullivan

- ☑ Administration
- Board of Education
- ☑ Department
- Students (in collaboration with faculty)
- Other (specify):_____

New courses must embed indicators of deep learning:

- Feedback: Providing continuous skills development, recognizing progress at each stage, while incorporating mentoring, feedback, and support throughout the learning process.
- Content: Ensuring students progress from initial understanding to application of content by continuously reviewing and upgrading their knowledge and skills, using high-quality resources, and engaging in hands-on experiences.
- Context: Promoting intrinsic motivation and student engagement in the pursuit of learning by communicating high expectations within an environment of clear rules and procedures and nurturing relationships.
- Community: Cultivating a safe, supportive, and collaborative culture with colleagues, students, and families to optimize learning for educators and students.

Course Catalog Description:

This is a more rigorous biology course that covers topics in more depth and is specifically designed for students with strong backgrounds in both life science and math. This course is designed for college-bound students and serves as the foundation for Advanced Placement / Early College Experience Biology and AP Environmental Science. This course stresses the development of problem-solving skills and laboratory techniques. Mathematical formulas will be used throughout the year, and, therefore, it is necessary that students are able to independently calculate equations.

Prerequisite(s):

Recommendation
Students achieve a rating of "Above Standard" on their 8th grade NGSS State Test, Life Science Portion.
Students achieve level 3 or 4 on their 8th grade NGSS State Test
Minimum grade of a, "B" in 8th grade science and recommendation from their 8th grade science teacher

COURSE/DEPARTMENT INFORMATION

How does this course fit into the course offerings? Establish a flow chart of courses and indicate where this course will fit in. *(Is it a stand alone, is it part of a sequence or is it replacing another course?)*

This course expands on our current 9th grade biology offering. This course is designed as a pre AP Biology / AP Environmental Science to prepare students to be successful in our current AP/ECE Biology and Environmental Science courses. Honors Biology will meet and go beyond the State required Next Generation Science Standards (NGSS)

How many electives does your department currently offer and what are they?

We currently offer 13 electives			
AP / ECE Biology	Chemistry I - Honors	Chemistry II - AP	Physics I - Honors
Physics II - AP / ECE	Natural Disasters	Investigating Life Beyond Earth	Forensics
Environmental A - Ecology	Environmental B - Human Impact	AP Environmental Science	

Who is your target audience?

Our target audience are students who are ready and interested in an accelerated pace of instruction, as well as a deeper understanding of concepts in Biology.

What are the pros and cons of this submission? Have these been thoroughly discussed by the department?

Pros
Students will be better prepared for AP/ECE Biology and AP Environmental Science, should they take the course. The course will support a deeper and broader understanding of Biology.

Cons
Leveling of 9th grade students. We will plan to mitigate this concern by reviewing multiple data points.

Does this submission have the full support of the department? Describe any steps taken to gain or measure the level of support.

Yes, this course has the full support of the department. The course addition has been advocated for by the biology teachers. Additionally, the chemistry and physics teachers recognize the gap created by the lack of a Biology Honors course and the benefit to our students and program by adding it to our course options

RATIONALE

How does this course contribute to the department's goals and align with the department's standards?

This course incorporates the NGSS life science standards for biology as well as additional standards that will aid in students' background knowledge for AP / ECE Biology and AP Environmental Science. This course

supports the Science Department goals of developing a foundation across scientific disciplines, cultivating inquiry-based learning through Science Practices, strengthening proficiency in systems thinking, promoting science literacy and communication through argumentation and explanation, and encouraging data analysis and computational skills across science disciplines.

What is the need this course addresses?

This course will fill the gap in our current course offerings. This course will enable students who are interested and ready to gain the fundamental Biology enumerated in the NGSS as well as beyond those standards in preparation for AP / ECE Biology and AP Environmental Science.

In what ways will deep learning occur throughout the course? *(See the definition of deep learning at the top of the document.)*

1. **Feedback**: The course is structured to provide ongoing skills development by recognizing students' progress at each learning stage. Throughout the units, there will be continuous opportunities for mentoring, feedback, and support, especially as students engage in hands-on laboratory investigations and model-building exercises. These activities allow for formative assessment and guidance, helping students refine their understanding of complex biological concepts.

2. **Content**: The curriculum ensures that students advance from foundational understanding to practical application. Each unit, from "The Chemistry of Life" to "Bacteria and Viruses," includes hands-on experiences that require students to analyze data, construct explanations based on evidence, and engage with high-quality scientific resources. By studying processes like enzyme catalysis, membrane transport, and genetic variation through experiments and simulations, students can apply theoretical knowledge to real-world biological phenomena.

3. **Context**: The course fosters intrinsic motivation and engagement by setting high academic expectations within a supportive learning environment. Clear procedures and structured units create an organized framework that promotes student autonomy and encourages inquiry-based learning. Essential questions guide each unit, helping students connect abstract concepts to larger biological systems and their applications, which nurtures a deep commitment to the learning process.

4. **Community**: A collaborative culture is central to the Honors Biology course, involving students, teachers, and potentially even families. Students are encouraged to work together in labs and group activities, fostering a learning environment where peer support and teacher guidance play crucial roles. This collective approach enhances student engagement, encourages positive relationships, and cultivates a safe, optimistic setting for academic growth.

Each of these elements in the learning design promotes an environment that not only deepens students' biological knowledge but also enhances their skills and motivation, preparing them for further studies in Advanced Placement and college-level biology courses.

How does this course support the Global Learning Competencies? You may refer to the existing or newly revised GLCs (see page 4).

The Honors Biology course supports the Global Learning Competencies through its curriculum structure, instructional methods, and collaborative environment, fostering essential skills for global citizenship as outlined below:

1. **Communication & Active Listening**: Throughout the course, students will engage in activities that require clear communication, such as presenting findings from lab experiments, discussing essential questions, and participating in group projects. Active listening is developed as students listen to peers' ideas and constructively respond during collaborative tasks, like model-building and data analysis discussions, reinforcing effective interpersonal communication skills.

2. **Collaboration**: Many aspects of the course require students to work in teams, such as lab experiments, group investigations, and project-based assignments. By collaborating on complex topics like cellular functions and ecological interactions, students learn to share responsibilities, leverage each other's strengths, and contribute toward shared goals. This collaborative environment prepares students to function effectively in group settings and enhances their teamwork skills.\

3. **Adaptability and Interest in New Learning**: The course content and hands-on experiences, from studying enzyme functions to exploring genetics and evolution, expose students to complex, evolving scientific concepts. This requires adaptability as students encounter new information and methodologies. Additionally, the emphasis on real-world applications and current scientific discoveries fosters a curiosity for new learning and motivates students to remain open to innovative ideas.

4. **Empathy and Kindness**: The course promotes empathy by encouraging students to respect differing viewpoints and support each other's learning. Group activities and peer reviews nurture kindness, as students provide constructive feedback and support their classmates' academic growth. This emphasis on empathy builds a positive classroom atmosphere, which is essential for collaborative learning and mutual respect.

5. **Citizenship and Civic Responsibility**: The curriculum includes topics like human impact on the environment and bioethics, which provide opportunities for students to explore the connections between biology and civic responsibility. Through these discussions, students gain insights into how scientific knowledge can influence social and environmental issues, helping them develop a sense of responsibility toward their community and the broader world.

6. **Questioning, Reasoning, & Problem Solving**: Honors Biology encourages critical thinking through inquiry-based learning, where students are prompted to ask questions, design experiments, and solve complex problems. Units focusing on cellular energetics, genetics, and ecological systems require students to construct evidence-based arguments, reason through data, and apply problem-solving strategies to biological questions, which strengthens their analytical and reasoning skills.

Through these competencies, the Honors Biology course not only builds scientific knowledge but also develops essential skills for students to navigate and contribute to an interconnected global society.

BUDGET AND FACILITY CONSIDERATIONS

Staffing Requirements:

Will this create an additional staffing need within the department?

No, this addition will not require additional staffing within the department.

Budget Requirements:

Equipment, materials, textbooks? Please distinguish between a one time only and a yearly expense.

This course will require an initial purchase of textbooks for the course. Based on our Chemistry Honors enrollment we are anticipating requests that will fill 3 - 4 sections.

Facility Requirements:

Additional FTE required	No
Minimum number of students required to run the class	15
Anticipated/estimated enrollment for year one	45-60 students

Is there classroom availability within the department for this class? If not, how will this class be accommodated within the school?

Yes there is classroom availability within the department.

Are there physical needs or limitations for this course? (water, power, room size, etc.)

As a life science lab course, this class should be taught in a science lab with access to lab stations, running water, sinks, refrigeration, etc.

STAGE ONE LEARNING PLAN
***Each unit needs to have a Stage One Plan**

https://pre-ap.collegeboard.org/media/pdf/pre-ap-biology-crosswalk-summary-next-generation-science-standards.pdf

AP NGSS Standards Comparission

<table>
<tr><th colspan="3">Unit Focus</th></tr>
<tr><td colspan="3">Unit 1: The Chemistry of Life

In this unit, students will explore the chemical foundations of life, focusing on the unique properties of water, the elements essential to living organisms, and the formation of biological macromolecules. Students will begin by investigating the structure of water, including hydrogen bonding, and how these properties affect Earth's surface and biological systems (HS-ESS2-5). Next, they will examine the role of carbon, hydrogen, and oxygen in building the molecules of life, particularly how sugars combine with other elements to form amino acids and large carbon-based molecules (HS-LS1-6).

The unit will introduce the four major types of macromolecules—carbohydrates, lipids, proteins, and nucleic acids—explaining their structure, function, and significance. A key focus will be on proteins and enzymes, where students will explore enzyme catalysis and the factors affecting enzyme activity. Through hands-on investigations and data analysis, students will construct evidence-based explanations for biochemical processes and understand how these processes drive life at the molecular level.</td></tr>
<tr><th colspan="3">Learning Goals</th></tr>
<tr><th>Established Goals</th><th colspan="2">Transfer</th></tr>
<tr><th>Standards</th><th colspan="2">Long Term Transfer Goals</th></tr>
<tr><td rowspan="3">HS-LS1-6: Construct and revise an explanation based on evidence for how carbon, hydrogen and oxygen from sugar molecules may combine with other elements to form amino acids and/or other large carbon based molecules.

HS-ESS2-5: Plan and conduct an investigation of the properties of water and its effects on Earth materials and surface properties.

Structure of water and hydrogen bonding

Elements of life</td><td colspan="2">Model basic properties of water, proteins, fats, and other molecules help make life possible. Use this knowledge to explain how chemical principles, like bonding and reactions, are essential to both living things and the environment.</td></tr>
<tr><td colspan="2">Meaning</td></tr>
<tr><td>Understandings</td><td>Essential Questions</td></tr>
<tr><td>- Explain how the properties of water that result from its polarity and hydrogen bonding affect its biological function.

-Describe the composition of macromolecules required by living organisms.</td><td>- How do the polarity and hydrogen bonding of water contribute to its unique properties and biological functions?

- How do the properties of monomers and polymers determine the structure and</td></tr>
</table>

Intro to Macromolecules Enzymes Enzyme Catalysis	-Describe the properties of the monomers and the polymers. -Describe the properties of enzymes -Explain how enzymes affect the rate of biological reactions	function of biological macromolecules? - What characteristics define enzymes, and how do they enable biological processes? - How do enzymes facilitate and regulate biochemical reactions essential to life?
Other Goals	**Acquisition of Knowledge & Skill**	
	Knowledge	**Skills**
	SYI-1.A.1 The subcomponents of biological molecules and their sequence determine the properties of that molecule. SYI-1.A.2 Living systems depend on properties of water that result from its polarity and hydrogen bonding. SYI-1.A.3 The hydrogen bonding between water molecules results in cohesion and adhesion. ENE-1.A.1 Organisms must exchange matter with the environment to grow, reproduce and maintain organization. ENE-1.A.2 Atoms and molecules from the environment are necessary to build new molecules ENE-1.A.2 Carbon is used to build biological molecules such as lipids, carbohydrates, nucleic acids and protein. ENE-1.D.1 Structure and function of polymers are derived from the way their monomers are assembled	1.A Describe biology concepts and/or processes 2.A Describe characteristics of a biological concept, process or model represented visually. 6.E.b. Predict the cause of effects of a change in, or disruption to, one or more components in a biological system based on a visual representation of a biological concept, process or model. 3.C.b Identify experimental procedures that are aligned to the question, including identifying appropriate controls.

	ENE-1.D.2 The structure of enzymes includes the active site that specifically interacts with substrate molecules ENE-1.E.1 The structure and function of enzymes contribute to the regulation of biological processes LS1.C Organization for Matter and Energy Flows in Organisms The sugar molecules formed contain carbon, hydrogen, and oxygen;their hydrocarbon backbones are used to make amino acids and other carbon based molecules that can be assembled into larger molecules (such as proteins or DNA) used, for example, to form new cells.	

Unit Focus	
Unit 2: Cell Structure, Function, and System Interactions In this unit, students will explore the intricate organization and function of cells as the fundamental units of life. They will develop and use models to illustrate how cellular structures, from organelles to entire systems, interact to provide specific functions within multicellular organisms (HS-LS1-2). Students will first examine the structures and roles of subcellular components, gaining an understanding of how these organelles work together to ensure the proper functioning of the cell (2.1, 2.2). The unit will also focus on the plasma membrane, its structure, and its critical role in maintaining homeostasis by regulating the movement of substances in and out of the cell (2.4). Students will investigate membrane transport processes, including diffusion, osmosis, and active transport, as well as the specialized mechanisms that allow cells to transport large molecules and maintain internal stability (2.6, 2.9). Through hands-on investigations, model building, and data analysis, students will connect cellular functions to the broader systems that support life in multicellular organisms.	
Learning Goals	
Established Goals	**Transfer**
Standards	**Long Term Transfer Goals**
HS-LS1-2: Develop and use a model to illustrate the hierarchical organization of interacting systems that provide specific	Explain how the different components, and their functions, within a cell work together to establish and maintain internal environments that are different from external environments, and respond to various stimuluses.

function within multicellular organisms. HS-LS1-3: Plan and conduct an investigation to provide evidence that feedback mechanisms maintain homeostasis. 2.1: Cellular Structures: Subcellular Components 2.2: Cellular Structure and Function 2.4: Plasma Membranes 2.6: Membrane Transport 2.9 Mechanisms of Transport	**Meaning**	
	Understandings	**Essential Questions**
	SYI-1.D Describe the structure and/or function of subcellular components and organelles SYI-1.E Explain how subcellular components and organelles contribute to the function of the cell. SYI-1.F Describe the structural features of a cell that allow organisms to capture, store and use energy. ENE-2.A Describe the role of each of the components of the cell membrane in maintaining the internal environment of the cell. ENE-2.B Describe the fluid mosaic model of the cell membrane. ENE-2.E: Describe the mechanisms that organisms use to maintain solute and water balance. ENE-2.F: Describe the mechanisms that organisms use to transport large molecules across the plasma membrane. ENE-2.J: Describe the processes that allow ions and other molecules to move across the membrane.	- How do the structure and function of subcellular components and organelles support the overall function of the cell? - In what ways do subcellular components and organelles contribute to the specialized functions and efficiency of the cell? -What mechanisms do cells use to maintain a stable internal environment that is different from the external environment? -What are the specific mechanisms involved in cellular transport and how are these processes regulated?
Other Goals	**Acquisition of Knowledge & Skill**	
	Knowledge	**Skills**

	SYI-1.D.3 Endoplasmic reticulum (ER) occurs in two forms–smooth and rough. Rough ER is associated with membrane bound ribosomes SYI-1.D4 The Golgi complex is a membrane bound structure that consists of a series of flattened membrane sacs SYI-1.E.1 Organelles and subcellular structures and the interactions among them, support cellular function– -Endoplasmic reticulum plays a role in protein processing and transport. -Mitochondria provide compartmentalization for cellular respiration. -Lysosomes are important in recycling the cell's organic materials. -Vacuoles play a role in storage of water in plant cells and storage of materials in animal cells. SYI-1.F.1 The folding of inner membranes increases surface area. SYI-1.F.2 Within the chloroplast are thylakoids and the stroma. SYI-1.F.3 The thylakoids are organized into stacks called grana. SYI-1.F.6 The stroma is the fluid within the inner chloroplast membrane and outside of the thylakoid. ENE-2.A.1 Phospholipids have both hydrophilic and hydrophobic regions. The hydrophilic heads are	1.A: Describe biology concepts and/or processes 1.B: Explain biological concepts and/or processes 6.B: Support a claim with evidence from biological principles, concepts, processes and/or data. 4.A: Construct a graph, plot, or chart 6.E.b: Predict the cause or effects of a change in, or disruption to, one or more components in a biological system based on a visual representation of a visual concept, process or model. 6.E.a: Predict the cause or effects of a change in, or disruption to, one or more components in a biological system based on a biological concept, process or model.

	oriented towards the external side of the membrane and the hydrophobic tails face each other within the interior of the membrane. ENE-2.B.1 Cell membranes consist of a structural framework of phospholipid molecules that is embedded with proteins, carbohydrates and cholesterol. ENE-2.E.1: Passive transport is the movement of molecules from high concentration to low concentration without the direct input of energy. ENE-2.E.3: Active transport requires the direct input of energy to move molecules from regions of low concentration to regions of high concentration. ENE-2.F.1 The selective permeability of membranes allows for the formation of concentration gradients of solutes across the membrane. ENE-2.F.2 The processes of endocytosis and exocytosis require energy to move large molecules into and out of cells— -In exocytosis, internal vesicles fuse with the plasma membrane and secrete large macromolecules out of the cell. -In endocytosis, the cell takes in macromolecules and particulate matter by forming new vesicles derived from the plasma membrane.	

	ENE-2.J.1: A variety of processes allow for the movement of ions and other molecules across membranes, including passive and active transport, endocytosis and exocytosis. LS1.A: Systems of specialized cells within organisms help them perform the essential functions of life.	

Unit Focus	
Unit 3: Cellular Energetics | Energy Transfer and Matter Cycling in Living Systems This unit focuses on the biochemical processes that drive the flow of energy and cycling of matter in living organisms and ecosystems. Students will use models to illustrate how cellular respiration breaks down food molecules and oxygen to form new compounds, releasing energy that powers cellular activities (HS-LS1-7, 3.6). The unit will explore both aerobic and anaerobic respiration, examining how matter and energy flow under different environmental conditions (HS-LS2-3). Students will also study photosynthesis, learning how it captures energy from sunlight to convert carbon dioxide and water into glucose and oxygen (3.5). They will develop models to explain the interdependence of photosynthesis and cellular respiration, focusing on how these processes cycle carbon through the biosphere, atmosphere, hydrosphere, and geosphere (HS-LS2-5). Throughout the unit, students will engage in hands-on experiments and data analysis to deepen their understanding of these essential life processes and their impact on the Earth's systems.	
Learning Goals	
Established Goals	**Transfer**
Standards	**Long Term Transfer Goals**
HS-LS1-7: Use a model to illustrate that cellular respiration is a chemical process whereby the bonds of food molecules and oxygen molecules are broken and the bonds in new compounds are formed resulting in a net transfer of energy. HS-LS2-3: COnstruct and revise an explanation based on evidence for the cycling of matter and the	Describe how cells get and use energy through processes like photosynthesis and respiration. Apply this understanding to bigger ideas about energy flow, like how plants and animals depend on each other and the environment for food and energy.
	Meaning
	Understandings / **Essential Questions**
	ENE-1.K: Describe the processes that allow organisms to use energy stored in biological macromolecules. / - What processes enable organisms to access and utilize energy stored in biological macromolecules?

flow of energy in aerobic and anaerobic conditions. HS-LS2-5: Develop a model to illustrate the role of photosynthesis and cellular respiration in the cycling of carbon among the biosphere, atmosphere hydrosphere and geosphere. 3.6 Cellular Respiration 3.5 Photosynthesis	ENE-1.I: Describe the photosynthetic processes that allow organisms to capture and store energy. ENE-1.J: Explain how cells capture energy from light and transfer it to biological molecules for storage and use. ENE-1.L: Explain how cells obtain energy from biological macromolecules in order to power cellular functions.	- How do cells extract energy from biological macromolecules to power essential cellular functions? - How do cells capture energy from light and transfer it to biological molecules for energy storage and use?
Other Goals	**Acquisition of Knowledge & Skill**	
	Knowledge	**Skills**
	ENE-1.K.1: Fermentation and cellular respiration use energy from biological macromolecules to produce ATP. Respiration and fermentation are characteristic of all forms of life. ENE-1.K.2: Cellular respiration in eukaryotes involves a series of reactions that capture energy from biological macromolecules ENE-1.K.3: The electron transport chain transfers energy from electrons in a series of reactions. ENE-1.L.1: Glycolysis is a biochemical pathway that releases energy in glucose to form ATP from ADP, NADH from NAD+, and pyruvate ENE-1.L.3: In the Krebs cycle, carbon dioxide is released, ATP is synthesized from ADP and phosphate.	1.B: Explain biological concepts and/or processes. 3.C.b: Identify experimental procedures that are aligned to the question, including identifying appropriate controls. 4.A: Construct a graph, plot or chart. 6.B: Support a claim with evidence from biological principles, concepts, processes and/or data. 6.E.c: Predict the causes or effects of a change in, or disruption to, one or more components in a biological system based on data.

	ENE-1.L.6: Fermentation allows glycolysis to proceed in the absence of oxygen and produces organic molecules, including alcohol and lactic acid. ENE-1.L.7: The conversion of ATP and ADP releases energy, which is used to power many reactions. ENE-1.I.1: Organisms capture and store energy for use in biological processes— a. Photosynthesis captures energy from the sun and produces sugars. ENE-1.J.1: During photosynthesis, chlorophyll absorbs energy from light. ENE-1.J.5: The energy captured in the light reactions and transferred to ATP and NADPH powers the production of carbohydrates from carbon dioxide in the Calvin Cycle, which occurs in the stroma of the chloroplast. LS1.C Organization for Matter and Energy Flow in Organisms -The process of photosynthesis converts light energy to stored chemical energy by converting carbon dioxide plus water into sugars plus released oxygen. -As matter and energy flow through different organizational levels of living systems, chemical elements are recombined in different ways to form different products. -As a result of these chemical reactions, energy is transferred from one system of interacting	

	molecules to another. Cellular respiration is a chemical process in which the bonds of food molecules are broken and new compounds are formed that can transport energy to muscles. PS3.D: Energy in Chemical Pathways -The main way that solar energy is captured and stored on Earth is through the complex chemical process known as photosynthesis.	

<table>
<tr><th colspan="3">Unit Focus</th></tr>
<tr><td colspan="3">Unit 4: Cell Growth and Division | Cellular Division, Genetic Variation, and the Regulation of Growth

This unit delves into the processes of cellular division and genetic variation that are essential for growth, development, and the maintenance of complex organisms. Students will explore the cell cycle, focusing on mitosis and how cellular division and differentiation contribute to the formation and maintenance of multicellular organisms (HS-LS1-4, 4.6). They will also study the regulation of the cell cycle, investigating how feedback mechanisms ensure proper cell division and prevent uncontrolled growth (4.7, 4.5).

The unit further examines the molecular basis of genetic variation, with students using evidence to defend claims about how genetic diversity arises. They will explore the role of meiosis in generating new genetic combinations, how errors during DNA replication can lead to mutations, and how environmental factors can induce genetic changes (HS-LS3-2, 6.2). Through model-building, analysis of experimental data, and critical thinking, students will gain a deep understanding of the genetic and cellular mechanisms that underlie development and variation in living organisms.</td></tr>
<tr><th colspan="3">Learning Goals</th></tr>
<tr><th>Established Goals</th><th colspan="2">Transfer</th></tr>
<tr><th>Standards</th><th colspan="2">Long Term Transfer Goals</th></tr>
<tr><td rowspan="3">HS-LS1-4: Use a model to illustrate the role of cellular division (mitosis) and differentiation in producing and maintaining complex organisms.

HS-LS3-2: Make and defend a claim based on evidence that inheritable genetic variations may result from: (1) new genetic combinations through meiosis, (2) viable errors occurring during</td><td colspan="2">Model the processes cells undergo during growth and division. Use this knowledge to model situations like healing after injury or factors that affect uncontrolled cell growth, like cancer.</td></tr>
<tr><td colspan="2">Meaning</td></tr>
<tr><td>Understandings</td><td>Essential Questions</td></tr>
<tr><td>IST-1.B:
Describe the events that occur in the cell cycle.

IST-1.C:</td><td>-What is the purpose of the cell cycle, and how does it ensure accurate transmission of chromosomes from one generation to the next?</td></tr>
</table>

replication, (3) mutations caused by environmental factors. 4.6 Cell Cycle 4.7 Regulation of the Cell Cycle 4.5 Feedback 6.2 DNA Replication	Explain how mitosis results in the transmission of chromosomes from one generation to the next. IST-1.D: Describe the role of checkpoints in regulating the cell cycle IST-1.E: Describe the effects of disruptions to the cell cycle on the cell or organism ENE-3.A: Describe positive and/ or negative feedback mechanisms. IST-1.M: Describe the mechanisms by which genetic information is copied for transmission between generations.	- What is the role of checkpoints in regulating the cell cycle, and how do they ensure proper cell division? - How can disruptions to the cell cycle affect the function and health of a cell or organism? - How do positive and negative feedback mechanisms regulate biological processes in living organisms?
Other Goals	**Acquisition of Knowledge & Skill**	
	Knowledge	**Skills**
	IST-1.B.1: In eukaryotes, cells divide and transmit genetic information via two highly regulated processes IST-1.B.2: The cell cycle is a highly regulated series of events for the growth and reproduction of cells— a. The cell cycle consists of sequential stages of interphase (G1, S, G2), mitosis, and cytokinesis IST-1.C.1: Mitosis is a process that ensures the transfer of a complete genome from a parent cell to two genetically identical daughter cells—	4.B.b: Describe data from a table or graph, including describing trends and/or patterns in the data. 6.E.a: Predict the cause or effects of a change in, or disruption to, one or more components in a biological system based on a biological concept, process or model. 6.E.b: Predict the cause or effects of a change in, or disruption to, one or more components in a biological system based on a visual representation of a visual concept, process or model. 2.B.b: Explain relationships between different characteristics of biological concepts, processes, or models

	a. Mitosis plays a role in growth, tissue repair, and asexual reproduction. b. Mitosis alternates with interphase in the cell cycle. c. Mitosis occurs in a sequential series of steps (prophase, metaphase, anaphase, telophase). IST-1.D.1: A number of internal controls or checkpoints regulate progression through the cycle IST-1.E.1: Disruptions to the cell cycle may result in cancer. ENE-3.A.1: Organisms use feedback mechanisms to maintain their internal environments and respond to internal and external environmental changes. IST-1.M.1: DNA replication ensures continuity of hereditary information— - Replication is a semiconservative process—that is, one strand of DNA serves as the template for a new strand of complementary DNA. -Helicase unwinds the DNA strands -DNA polymerase synthesizes new strands of DNA LS1.B: Growth and development of organisms. In multicellular organisms individual cells grow then divide via a process called mitosis, thereby allowing the organism to	represented visually in applied contexts.

	grow. The organism begins as a single cell that divides successively to produce many cells, with each parent cell passing identical genetic material (two variants of each chromosome pair) to both daughter cells. Cellular division and differentiation produce and maintain a complex organism, composed of systems of tissues and organs that work together to meet the needs of the whole organism. LS1.A: Feedback mechanisms maintain a living system's internal conditions within certain limits and mediate behaviors, allowing it to remain alive and function as external conditions change within some range.	

Unit Focus	
Unit 5: Heredity (DNA) | Genetics, Inheritance, and Molecular Biology Unit Description: This unit explores the molecular and genetic mechanisms that drive inheritance, variation, and the expression of traits in living organisms. Students will investigate how meiosis generates new genetic combinations, how errors in DNA replication and mutations from environmental factors contribute to genetic variation, and how these changes can be inherited (HS-LS3-2, 5.1, 5.2). They will also ask questions to clarify how DNA and chromosomes store and transmit genetic information, encoding traits passed from parents to offspring (HS-LS3-1, 5.6). The unit will cover Mendelian and non-Mendelian genetics, providing students with a framework to understand the statistical and probabilistic patterns of trait distribution in populations (HS-LS3-3, 5.3, 5.4). Students will apply probability and statistical concepts to predict trait variation and explain deviations from expected inheritance patterns. Finally, the unit will delve into the molecular structure of DNA, showing how it codes for proteins that carry out essential functions in the body (HS-LS1-1). Through hands-on investigations, data analysis, and evidence-based explanations, students will gain a comprehensive understanding of the principles of genetics and molecular biology.	
Learning Goals	
Established Goals	**Transfer**
Standards	**Long Term Transfer Goals**

<table>
<tr><td rowspan="5">HS-LS3-2: Make and defend a claim based on evidence that inheritable genetic variations may result from: (1) new genetic combinations through meiosis, (2) viable errors occurring during replication, (3) mutations caused by environmental factors.

HS-L3-1: Ask questions to clarify relationships about the role of DNA and chromosomes in coding the instructions for characteristics traits passed from parent to offspring.

HS-LS3-3: Apply concepts of statistics and probability to explain the variation and distribution of expressed traits in a population.

HS-LS1-1: Construct an explanation based on evidence for how the structure of DNA determines the structure of proteins which carry out the essential functions of life through systems of specialized cells.

5.1 Meiosis

5.2 Meiosis and Genetic Diversity

5.3 Mendelian Genetics

5.4 NonMendelian Genetics

5.6 Chromosomal Inheritance</td><td colspan="2">Model how traits are passed down from parents to offspring and how genetic variation occurs. Use this understanding to make predictions and analyze genetic scenarios.</td></tr>
<tr><td colspan="2">Meaning</td></tr>
<tr><td>Understandings</td><td>Essential Questions</td></tr>
<tr><td>IST-1.F:
Explain how meiosis results in the transmission of chromosomes from one generation to the next.

IST-1.G:
Describe similarities and/ or differences between the phases and outcomes of mitosis and meiosis.

IST-1.H:
Explain how the process of meiosis generates genetic diversity.

EVO-2.A:
Explain how shared, conserved, fundamental processes and features support the concept of common ancestry for all organisms.

IST-1.I:
Explain the inheritance of genes and traits as described by Mendel’s laws.

IST-1.J:
Explain deviations from Mendel’s model of the inheritance of traits

SYC-3.C:
Explain how chromosomal inheritance generates genetic variation in sexual reproduction</td><td>-How does the process of meiosis contribute to genetic diversity?

-In what ways do genetic mutations and environmental factors influence genetic variation?

-How do the laws of inheritance predict the distribution of traits in offspring?</td></tr>
<tr><td>Other Goals</td><td colspan="2">Acquisition of Knowledge & Skill</td></tr>
<tr><td></td><td>Knowledge</td><td>Skills</td></tr>
</table>

	IST-1.F.1: Meiosis is a process that ensures the formation of haploid gamete cells in sexually reproducing diploid organisms— a. Meiosis results in daughter cells with half the number of chromosomes of the parent cell. b. Meiosis involves two rounds of a sequential series of steps (meiosis I and meiosis II). IST-1.G.1: Mitosis and meiosis are similar in the way chromosomes segregate but differ in the number of cells produced and the genetic content of the daughter cells. IST-1.H.1: Separation of the homologous chromosomes in meiosis I ensures that each gamete receives a haploid (1*n*) set of chromosomes that comprises both maternal and paternal chromosomes. IST-1.H.2: During meiosis I, homologous chromatids exchange genetic material via a process called "crossing over" (recombination), which increases genetic diversity among the resultant gametes. EVO-2.A.1: DNA and RNA are carriers of genetic information. IST-1.I.2: Fertilization involves the fusion of two haploid gametes, restoring the	1.B: Explain biological concepts and/or processes 6.E.c: Predict the causes or effects of a change in, or disruption to, one or more components in a biological system based on data. 5.A.b. Perform mathematical calculations, including means. 6.E.b. Predict the cause of effects of a change in, or disruption to, one or more components in a biological system based on a visual representation of a biological concept, process or model.

	diploid number of chromosomes and increasing genetic variation by creating new combinations of alleles -Rules of probability can be applied to analyze single gene traits from parent to offspring. -Patterns of inheritance: (monohybrid, dihybrid, sex-linked) can be predicted from data, including pedigrees that give genotype/phenotype information. IST-1.J.2: Some traits are determined by genes on sex chromosomes and are known as sex- linked traits. The pattern of inheritance of sex-linked traits can often be predicted from data, including pedigree, indicating the parent genotype/phenotype and the offspring genotypes/phenotypes. SYI-3.C.2: The chromosomal basis of inheritance provides an understanding of the pattern of transmission of genes from parent to offspring SYI-3.C.3: Certain human genetic disorders can be attributed to the inheritance of a single affected or mutated allele or specific chromosomal changes, such as nondisjunction. LS3.B: Variation of Traits In sexual reproduction, chromosomes can sometimes swap sections during the process of meiosis (cell division), thereby creating new genetic combinations	

	and thus more genetic variation. Although DNA replication is tightly regulated and remarkably accurate, errors do occur and result in mutations, which are also a source of genetic variation.	

Unit Focus		
Unit 6: Gene Expression (RNA and Protein Synthesis) Students will study the flow of genetic information from DNA to RNA to proteins and how gene expression leads to cellular specialization and organismal diversity. This unit also explores gene regulation, mutations, and the techniques of genetic engineering, providing insights into biotechnology and its applications.		
Learning Goals		
Established Goals	**Transfer**	
Standards	**Long Term Transfer Goals**	
HS-LS3-2: Make and defend a claim based on evidence that inheritable genetic variations may result from: (1) new genetic combinations through meiosis, (2) viable errors occurring during replication, (3) mutations caused by environmental factors. HS-L3-1: Ask questions to clarify relationships about the role of DNA and chromosomes in coding the instructions for characteristics traits passed from parent to offspring. HS-LS3-3: Apply concepts of statistics and probability to explain the variation and distribution of expressed traits in a population. 6.3 Transcription and RNA Processing 6.4 Translation 6.6 Gene Expression and Cell Specialization	Model the mechanism that demonstrates how genes carry instructions that determine physical traits. Make predictions and explain the role of mutations and how they impact the process of gene expression.	
	Meaning	
	Understandings	**Essential Questions**
	IST-1.N Describe the mechanisms by which genetic information flows from DNA to RNA to protein. IST-1.O Explain how the phenotype of an organism is determined by its genotype. IST-2.D Describe the connection between the regulation of gene expression and phenotypic differences in cells and organisms. IST-2.E Describe the various types of mutation. IST-4.A	-How is genetic information from DNA translated into proteins that perform essential functions? -How do changes in genotype affect phenotype? -How does gene expression vary between cells and contribute to cell specialization? -What are the roles of genetic engineering and biotechnology in understanding and manipulating genetic information?

6.7 Mutations 6.8 Biotechnology	Describe how changes in genotype may result in changes in phenotype. IST-1.P Describe the use of genetic engineering techniques in analyzing or manipulating DNA.	
Other Goals	**Acquisition of Knowledge & Skill**	
	Knowledge	**Skills**
	IST-1.N.1 The sequence of the RNA bases, together with the structure of the RNA molecule, determines RNA function— a. mRNA molecules carry information from DNA to the ribosome. b. Distinct tRNA molecules bind specific amino acids and have anti-codon sequences that base pair with the mRNA. IST-1.N.2 Genetic information flows from a sequence of nucleotides in DNA to a sequence of bases in an mRNA molecule to a sequence of amino acids in a protein. IST-1.O.1 Translation of the mRNA to generate a polypeptide occurs on ribosomes that are present in the cytoplasm. IST-1.O.4 Translation includes– a. Translation is initiated when the rRNA in the ribosome interacts with the mRNA. b. The sequence of nucleotides on the mRNA is read in triplets called codons. c. Each codon encodes a specific amino acid,	2.B.b Explain relationships between different characteristics of biological concepts, processes, or models represented visually, in applied concepts. 6.E.a Predict the causes or effects of a change in, or disruption to, one or more components in a biological system based on biological concepts or processes. 6.A Make a claim. 6.B Support a claim with evidence from biological principles, concepts, processes and/or data. 2.C Explain how biological concepts or processes represented visually relate to larger biological principles, concepts,m processes or theories. 3.D Make observations, or collect data from representations of laboratory set ups or results.

	which can be deduced by using a genetic code chart. d. tRNA brings the correct amino acid to the correct place specified by the codon on the mRNA. e. The process continues along the mRNA until a stop codon is reached. IST-2.D-1 Gene regulation results in differential gene expression and influences cell specialization. IST-2.E-1 Changes in genotype can result in changes in phenotype— a. Disruptions in genes and gene products cause new phenotypes. IST-2.E-2 Alterations in a DNA sequence can lead to changes in the type or amount of the protein produced and the phenotype. IST-4.A-1 Errors in DNA replication or DNA repair mechanisms, and external factors, including radiation and reactive chemicals, can cause random mutations in the DNA— b. Mutations are the primary source of genetic variation. IST-1.P-1 Genetic engineering techniques can be used to analyze and manipulate DNA and RNA—	

	a. Electrophoresis separates molecules according to size and charge. b. Bacterial transformation introduces DNA into bacterial cells. c. DNA sequencing determines the order of nucleotides in a DNA molecule. S.1.A: Structure and Function All cells contain genetic information in the form of DNA molecules. Genes are regions in the DNA that contain the instructions that code for the formation of proteins. LS3.A: Inheritances of Traits Each chromosome consists of a single very long DNA molecule, and each gene on a chromosome is a particular segment of that DNA. The instructions for forming species' characteristics are carried in the DNA. All cells in an organism have the same genetic content, but the genes used (expressed) by the cell may be regulated in different watts. Not all DNA codes for a protein; some segments of DNA are involved in regulatory or structural functions, and some have no known functions.	

Unit Focus

Unit 7: Natural Selection

This unit focuses on the principles of evolution through natural selection, examining the genetic and environmental factors that contribute to adaptation and species diversity. Students will learn how advantageous traits increase an organism's survival and reproductive success, leading to evolutionary changes in populations over time.

Learning Goals

Established Goals	**Transfer**	
Standards	**Long Term Transfer Goals**	
HS-LS4-1 Communicate scientific information that common ancestry and biological evolution are supported by multiple lines of empirical evidence. HS-LS4-2 Construct an explanation based on evidence that the process of evolution primarily results from four factors: (1) the potential for a species to increase in number, (2) the heritable genetic variation of individuals in a species is due to mutation and sexual reproduction, (3) competition for limited resources, and (4) the proliferation of those organisms that are better able to survive and reproduce in the environment. HS-LS4-3 Apply concepts of statistics and probability to support explanations that organisms with an advantageous heritable trait tend to increase in proportion to organisms lacking this trait. HS-LS4-4 Construct an explanation based on evidence for how natural selection leads to adaptation of populations. 7.1 Introduction to Natural Selection 7.2 Natural Selection 7.3 Artificial Selection	Evolution is characterized by a change in the genetic makeup of a population over time and is supported by multiple lines of evidence. Model the mechanism for evolution and how change occurs overtime.	
	Meaning	
	Understandings	**Essential Questions**
	EVO-1.C Describe the causes of natural selection. EVO-1.D Explain how natural selection affects populations. EVO-1.E Describe the importance of phenotypic variation in a population. EVO-1.G Explain the relationship between changes in the environment and evolutionary changes in the population. EVO-1.H Explain how random occurrences affect the genetic makeup of a population. EVO-1.J Describe the change in the genetic makeup of a population over time. EVO-1.M Describe the types of data that provide evidence for evolution.	-What factors drive natural selection, and how do they influence species evolution over time? -How does phenotypic variation within a population impact its survival and potential changes over time? -How do environmental changes affect populations?

7.4 Population Genetics 7.6 Evidence of Evolution		
Other Goals	**Acquisition of Knowledge & Skill**	
	Knowledge	**Skills**
	EVO-1.C.1 Natural selection is a major mechanism of evolution. EVO-1.C.2 According to Darwin's theory of natural selection, competition for limited resources results in differential survival. Individuals with more favorable phenotypes are more likely to survive and produce more offspring, thus passing traits to subsequent generations. EVO-1.D.1 Evolutionary fitness is measured by reproductive success. EVO-1.E.1 Natural selection acts on phenotypic variations in populations. EVO-1.E.2 Environments change and apply selective pressures to populations EVO-1.G.1 Convergent evolution occurs when similar selective pressures result in similar phenotypic adaptations in different populations or species EVO-1.H.1 Evolution is also driven by random occurrences— a. Mutation is a random process that contributes to evolution.	2.A Describe characteristics of a biological concept, process or model represented visually. 1.B: Explain biological concepts and/or processes 4.3.c. Describe data from a table or graph, including describing relationships between variables. 3.B State the hypothesis or predict the results of an experiment. 4.B.a. DEscribe data from a table or graph, including identifying specific data points.

	EVO-1.J.1 Mutation results in genetic variation, which provides phenotypes on which natural selection acts. EVO-1.M.1 Evolution is supported by scientific evidence from many disciplines (geographical, geological, physical, biochemical, and mathematical data). LS3.B: Variation of Traits Environmental factors can also cause mutations in genes, and viable mutations are inherited. LS3.B: Variation of Traits Environmental factors also affect expression of traits and hence affect the probability of occurrences of traits in a population. Thus, the variation and distribution of traits observed depend on both genetic and environmental factors.	

Unit Focus	
Unit 8: Ecology Students will explore the interactions within ecosystems, focusing on the factors that influence population dynamics, community interactions, and ecosystem stability. This unit emphasizes the role of resource availability, population density, and environmental changes in shaping biodiversity and ecological balance.	
Learning Goals	
Established Goals	**Transfer**
Standards	**Long Term Transfer Goals**
HS-LS-2-1 Use mathematical and/or computational representations to support explanations of factors that affect carrying capacity of ecosystems at different scales.	Explain different interactions between species and their environments in various ecosystems. Use this understanding to explain how disruption impacts ecosystems over time.
	Meaning
	Understandings / **Essential Questions**

HS-LS-2-2 Use mathematical representations to support and revise explanations based on evidence about factors affecting both biodiversity and populations in ecosystems of different scales. HS-LS-2-6 Evaluate the claims, evidence and reasoning that the complex interactions in ecosystems maintain relatively consistent numbers and types of organisms in stable conditions, but changing conditions may result in a new ecosystem. HS-LS-4-5 Evaluate the evidence supporting claims that change in environmental conditions may: (1) increase in the number of individuals of some species, (2) the emergence of new species overtime,and (3) the extinction of other species. 8.3 Population Ecology 8.4 Effect of Density of Populations 8.5 Community Ecology	SYI-1.G Describe factors that influence growth dynamics of populations. SYI-1.H Explain how the density of a population affects and is determined by resource availability in the environment. ENE-4.B Explain how interactions within and among populations influence community structure. ENE-4.C Explain how community structure is related to energy availability in the environment.	-What factors affect the growth of populations within an ecosystem? -How do interactions between species shape community structure and ecosystem dynamics? -How do environmental changes impact biodiversity and ecosystem stability?
Other Goals	**Acquisition of Knowledge & Skill**	
	Knowledge	**Skills**
	SYI-1.G.1 Populations comprise individual organisms that interact with one another and with the environment in complex ways. SYI-1.G.2 Many adaptations in organisms are related to obtaining and using	4.A Construct a graph, plot or chart. 6.E.c Predict the cause or effects of a change in, or disruption to, one or more components in a biological system based on data.

	energy and matter in a particular environment– a. Population growth dynamics depends on a number of factors b. Reproduction without constraints results in the exponential growth of a population. SYI.H.1 A population can produce a density of individuals that exceeds the system's resource availability. SYI.H.2 As limits to growth due to density-dependent and density-independent factors are imposed, a logistic growth model generally ensures. ENE-4.B.1 Communities change over time depending on interactions between populations. ENE-4.B.2 Interactions among populations determine how they access energy and matter within a community. ENE-4.C.1 Cooperation or coordination between organisms, populations, and species can result in enhanced movement of, or access to matter and energy. LS2.A: Ecosystems have carrying capacities, which are limits to the numbers of organisms and populations they can support. These limits result from such factors as the availability of living and non-living resources and from such challenges as predation, competition, and disease. Organisms would have the capacity to produce populations of	

	great size were it not for the fact that environments and resources are finite. This fundamental tension affects the abundance (number of individuals) of species in any given ecosystem. LS4.C: Adaptation Changes in the physical environment, whether naturally occurring or human induced, have contributed to the explanation of some species, the emergence of new and distinct species as populations diverge under different conditions, and the decline– and sometimes the extinction– of some species.	

Unit Focus		
Unit 9: Bacteria and Viruses This unit examines the structure, function, and diversity of prokaryotic organisms (bacteria) and viruses, highlighting their roles in ecosystems and their interactions with host organisms. Students will explore bacterial and viral mechanisms of genetic exchange and their evolutionary significance, gaining a foundational understanding of microbiology and virology.		
Learning Goals		
Established Goals	**Transfer**	
Standards	**Long Term Transfer Goals**	
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-LS1-1 Construct an explanation based on evidence for how the structure of DNA determines the structure of proteins which carry out the essential functions of life through systems of specialized cells. HS-LS4-1	Describe the diversity among bacteria and viruses and their roles in health and ecosystems. Use this understanding to predict expected and unexpected outcomes.	
	Meaning	
	Understandings	**Essential Questions**
	EVO-1.A Describe similarities and/or differences in compartmentalization between prokaryotic and eukaryotic cells.	-What are the structural and functional differences between prokaryotic and eukaryotic cells? -How do bacteria and viruses interact with their environments and host organisms? -In what ways do bacterial and viral mechanisms contribute to

Communicate scientific information that common ancestry and biological evolution are supported by multiple lines of empirical evidence. Prokaryotes Viruses		genetic change and evolution over time?
Other Goals	**Acquisition of Knowledge & Skill**	
	Knowledge	**Skills**
	EVO-1.A.2 Prokaryotes generally lack internal membrane bound organelles but have internal regions with specialized structures and functions. EVO-1.A.3 Eukaryotic cells maintain internal membranes that partition the cell into specialized regions.	6.B Support a claim with evidence from biological principles, concepts, processes and/or data.

Branford Public Schools Global Learning Competencies

GLCs were updated as part of the 2023 Strategic Coherence Plan. The revised GLCs are listed here for reference, though more work is needed before putting them into practice.


Communication and Active Listening
Collaboration
Adaptability and Interest in New Learning
Empathy and Kindness
Citizenship and Civic Responsibility
Questioning, Reasoning and Problem Solving
Branford Public Schools
Learning Today, Leading Tomorrow

BRANFORD HIGH SCHOOL
NEW COURSE PROPOSAL FORM

Course Title: ECE Introduction to Allied Health Professions (UConn)

Credit: 0.5

Credit Area(s): Science, STEM Elective

Course Proposed by:

- ☑ Administration
- Board of Education
- ☑ Department
- Students (in collaboration with faculty)
- Other (specify):_____

New courses must embed indicators of deep learning:

- Feedback: Providing continuous skills development, recognizing progress at each stage, while incorporating mentoring, feedback, and support throughout the learning process.
- Content: Ensuring students progress from initial understanding to application of content by continuously reviewing and upgrading their knowledge and skills, using high-quality resources, and engaging in hands-on experiences.
- Context: Promoting intrinsic motivation and student engagement in the pursuit of learning by communicating high expectations within an environment of clear rules and procedures and nurturing relationships.
- Community: Cultivating a safe, supportive, and collaborative culture with colleagues, students, and families to optimize learning for educators and students.

Course Catalog Description:

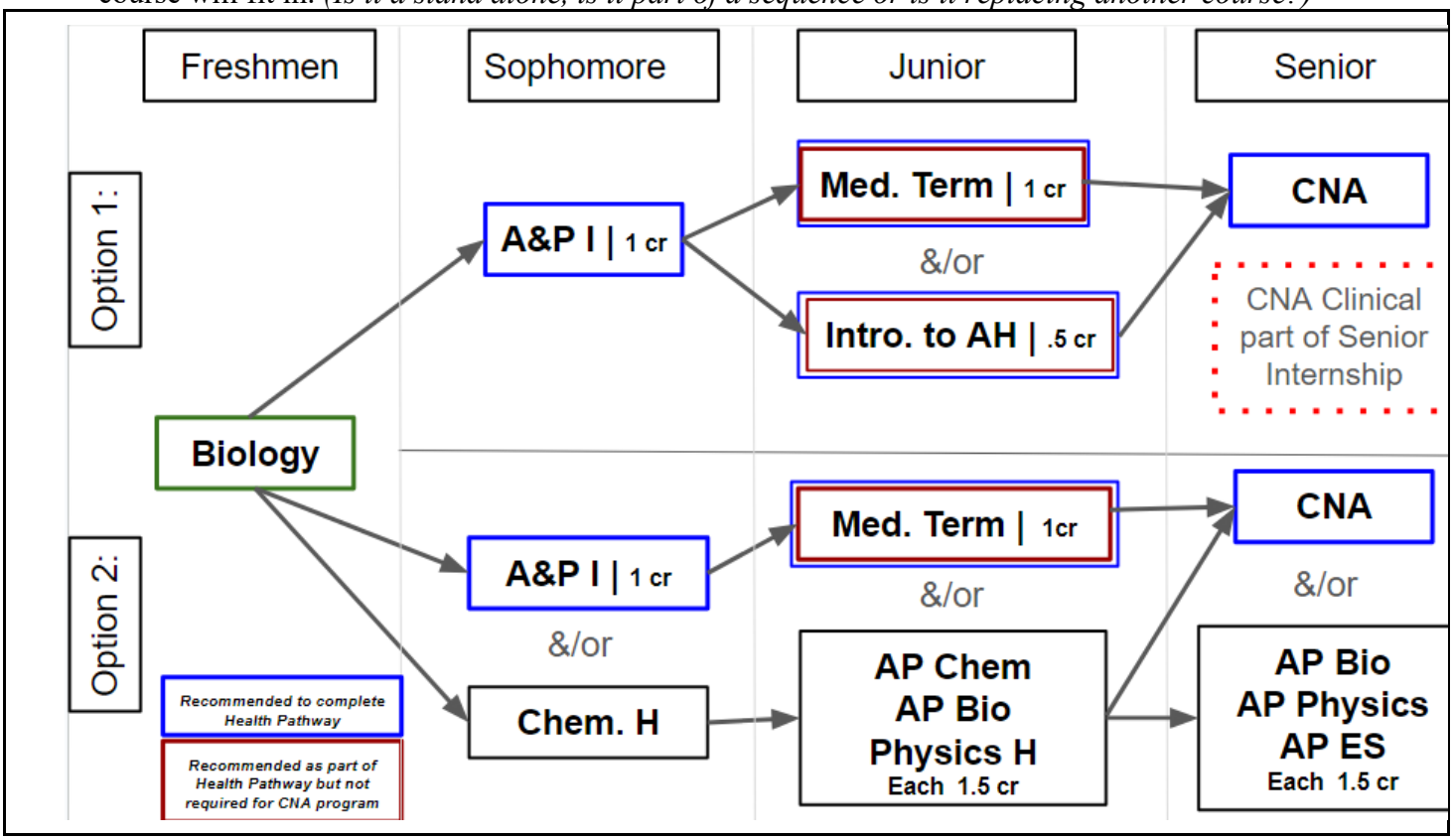
This is a half-year exploratory course in which students interested in pursuing college and a career in allied health professions will gain knowledge of the five allied health fields in terms of college requirements, licensing requirements, projected job opportunities, salaries, and job descriptions. Students will explore the five allied health pathways: Diagnostic, therapeutic, research and development, informatics, and support services. Students will complete occupational simulations in the classroom and interact with guest speakers from each pathway.
Students may earn two college credits through the University of Connecticut's Early College Experience (ECE) program.

Prerequisite(s):

Anatomy & Physiology I

COURSE/DEPARTMENT INFORMATION

How does this course fit into the course offerings? Establish a flow chart of courses and indicate where this course will fit in. *(Is it a stand alone, is it part of a sequence or is it replacing another course?)*



How many electives does your department currently offer and what are they?

- AP/ECE Biology
- AP Chemistry
- Anatomy/Physiology
- Forensics
- AP Physics
- Natural Disasters
- Investigating Life Beyond Earth
- Marine Biology
- Environmental A/B
- AP Environmental Science

Who is your target audience?

High school students who have an interest in pursuing careers within the Science or Healthcare fields.

What are the pros and cons of this submission? Have these been thoroughly discussed by the department?

This submission has been thoroughly researched, analyzed, and developed to provide all learners at BHS the opportunity to take this course via various tracks at any time during high school. This course is a foundation within the Healthcare Pathways Program (series of courses designed to support student needs and implementation of a Certified Nursing Assistant (CNA) program at BHS) and it was decided to also offer this course as a valuable Science elective to all students.

Does this submission have the full support of the department? Describe any steps taken to gain or measure the level of support.

Yes. This is a foundational course for the Allied Health Career Pathway at BHS. All department leaders, administrators, and the Guidance Department have been involved in this process.

RATIONALE

How does this course contribute to the department's goals and align with the department's standards?

This course contributes to the alignment of all Science courses and electives offered at BHS (see Flowchart above). It supports our Theory of Action (If we create an environment where all members take ownership in building a community, then students will feel a strong sense of belonging and engage in meaningful learning) by supporting the interests of our students and building a supportive community that prepares students for life after high school. It is in alignment with the National Health Science Standards:

1.1.1 Describe the organization of the human body and directional terms.
1.1.2 Identify basic structures and describe functions of human body systems.
2.1 Concepts of Effective Communication
2.2 Medical Terminology
2.2.1 Use common roots, prefixes, and suffixes to communicate information.
8.2 Team Member Participation

What is the need this course addresses?

As we continue to develop our Allied Health Career Pathway and Certified Nursing Assistant (CNA) Program, it was determined that this course would offer additional exposure to careers in the medical field for all students at Branford High School. This course would also satisfy graduation credit requirements for STEM electives.

In what ways will deep learning occur throughout the course? *(See the definition of deep learning at the top of the document.)*

This course is designed to empower students with the skills and passion necessary to excel in diverse Allied Health fields. Building on core competencies, the curriculum emphasizes deep learning principles:

1. **Feedback** Students are recognized at each stage, fostering confidence and clarity as they master new skills related to various health professions, with regular progress assessments to celebrate milestones.
2. **Content** Core competencies and healthcare-related skills are developed through extensive hands-on learning, preparing students to translate knowledge into practice with real-world applications. This course was developed by UCONN providing access to resources and tools to help students discover various professions related to the healthcare field, aligning theoretical knowledge with practical skills essential for success in the medical field.
3. **Context** Courses are crafted to inspire intrinsic motivation, encouraging students to explore their passion for healthcare and uncover personal reasons driving their commitment to this career path.
4. **Community**An inclusive, supportive environment encourages students to engage deeply with course material, fostering an optimistic learning culture that values resilience and innovation.

This Allied Health Professions Course ultimately aims to nurture capable, motivated students committed to lifelong learning in healthcare.

How does this course support the Global Learning Competencies? You may refer to the existing or newly revised GLCs (see page 4).

This Intro to Allied Health Professions Course integrates essential professional skills to prepare students for compassionate and effective service in a healthcare field of their choice. Key elements related to BPS's GLC's include:

1. **Communication & Active Listening:** Emphasis is placed on developing clear, empathetic communication and attentive listening, enabling students to connect meaningfully with patients, families, and healthcare teams.
2. **Collaboration:** Students engage in teamwork-focused exercises to enhance their ability to work harmoniously within diverse teams, fostering a shared commitment to patient care and continuous learning.
3. **Adaptability and Interest in New Learning:** The curriculum encourages openness to change and the pursuit of new knowledge, preparing students to adapt in fast-evolving healthcare settings.
4. **Empathy and Kindness:** With a focus on understanding and compassion, students learn to approach patient care with genuine kindness, respecting each individual's unique circumstances.
5. **Citizenship and Civic Responsibility:** The course promotes a sense of civic duty and ethical responsibility, guiding students to serve as conscientious healthcare professionals and informed community members.
6. **Questioning, Reasoning, & Problem Solving:** Students learn to ask insightful, targeted questions to gather essential patient information, clarify complex concepts, and explore multiple perspectives on health challenges.

BUDGET AND FACILITY CONSIDERATIONS

Staffing Requirements:

Will this create an additional staffing need within the department?

No additional staff needed. UCONN ECE training and certification will be required for 2 current Anatomy & Physiology teachers.

Budget Requirements:

Equipment, materials, textbooks? Please distinguish between a one time only and a yearly expense.

No required texts beyond the provided UCONN curriculum.
Supplemental Textbook (optional) Stanfield, P, Cross, N, Hui, Y.H. (2012) Introduction to the Health Professions, Jones and Bartlett Publishers, Sudbury MA, 6th Edition
No anticipated yearly expenses.

Facility Requirements:

Additional FTE required	0
Minimum number of students required to run the class	8
Anticipated/estimated enrollment for year one	24-50 in year one

Is there classroom availability within the department for this class? If not, how will this class be accommodated within the school?

Yes, it will be held in the current Anatomy & Physiology classrooms.

Are there physical needs or limitations for this course? (water, power, room size, etc.)

None

STAGE ONE LEARNING PLAN
***Each unit needs to have a Stage One Plan**

<table>
<tr><th colspan="3">Unit Focus</th></tr>
<tr><td colspan="3">Unit 1: Allied Health Professions: Focus on College and Licensing Requirements

This unit provides students with critical information on academic pathways, college entry prerequisites, and professional licensing essentials within Allied Health fields.

This unit ensures that students are well-prepared for the academic and professional milestones that will enable them to succeed in the field of allied health.</td></tr>
<tr><th colspan="3">Learning Goals</th></tr>
<tr><th>Established Goals</th><th colspan="2">Transfer</th></tr>
<tr><th>Standards</th><th colspan="2">Long Term Transfer Goals</th></tr>
<tr><td rowspan="4">2.2 Medical Terminology

2.2.1 Use common roots, prefixes, and suffixes to communicate information

8.2 Team Member Participation</td><td colspan="2">Students will independently use their learning to set and pursue realistic academic and career goals, aligning their strengths, interests, and aspirations with informed decision-making about future pathways.</td></tr>
<tr><th colspan="2">Meaning</th></tr>
<tr><th>Understandings</th><th>Essential Questions</th></tr>
<tr><td>Students gain understanding of the steps required for their chosen profession and to develop a plan for completing necessary college and licensing requirements.</td><td>● What fundamental skills, knowledge, and mindsets are essential for success in allied health professions, and why are they important for patient care and professional growth?</td></tr>
</table>

		● How do the pathways of college education and licensing requirements shape access to and advancement in allied health careers, and what do they reveal about the demands of the profession? ● How do effective communication and active listening impact patient care and teamwork in healthcare settings?
Other Goals	**Acquisition of Knowledge & Skill**	
	Knowledge	**Skills**
	1. College Requirements: Students are introduced to specific degree and certification programs, including prerequisite courses, GPA requirements, and application procedures to successfully enroll in allied health programs. 2. Licensing Requirements: The unit outlines national and state licensing requirements for various allied health professions.obligations to maintain licensure.	1. Building a strong academic foundation of academic requirements in health-related fields. 2. Students understand the necessary examinations, certification processes, and continuing education

Unit Focus
Unit 2:Allied Health Professions: Projected Job Opportunities, Salaries, and Job Descriptions This unit focuses on providing students with a comprehensive understanding of career prospects, salary expectations, and professional roles within the allied health field.

Learning Goals	
Established Goals	**Transfer**
Standards	**Long Term Transfer Goals**

<table>
<tr><td rowspan="4">2.2 Medical Terminology

2.2.1 Use common roots, prefixes, and suffixes to communicate information

8.2 Team Member Participation</td><td colspan="2">Students will independently use their learning to make informed decisions about pursuing and advancing in allied health careers, applying knowledge and tools to navigate job acquisition, career progression, and professional growth effectively.</td></tr>
<tr><td colspan="2">Meaning</td></tr>
<tr><td>Understandings</td><td>Essential Questions</td></tr>
<tr><td>Students will research and analyze current and future job openings in various allied health professions.
Students acquire a clear picture of daily job duties in allied health roles, preparing them for informed career decisions and meeting qualification standards.</td><td>How do current and projected job opportunities in allied health reflect evolving healthcare needs, and what do they reveal about the future of the profession?
How can individuals align their career aspirations with trends in the job market, salary expectations, and personal values to build a meaningful and sustainable career in allied health?</td></tr>
<tr><td>Other Goals</td><td colspan="2">Acquisition of Knowledge & Skill</td></tr>
<tr><td rowspan="2">Final Project: Students create a comprehensive profile for an allied health profession, incorporating job outlook, salary, qualifications, and their own assessment of how well the role aligns with their career aspirations.</td><td>Knowledge</td><td>Skills</td></tr>
<tr><td>Students gain an understanding of job stability, growth potential, and demand in allied health fields.
Certification & Licensing Requirements Workshop: Students explore necessary certifications, licensure exams, and continuing education for each role.
Pathway Planning Assignment: Students create a roadmap for their chosen career, including college prerequisites, licensure, and any additional training.</td><td>Students use tools such as the Bureau of Labor Statistics (BLS) to explore job growth projections and demands for roles like medical assistants, radiology technologists, physical therapy aides, and more.

This unit provides students with the knowledge and tools to make educated decisions regarding their career in allied health, preparing them for the practical aspects of job acquisition and career progression.</td></tr>
</table>

Branford Public Schools Global Learning Competencies

GLCs were updated as part of the 2023 Strategic Coherence Plan. The revised GLCs are listed here for reference, though more work is needed before putting them into practice.


Communication and Active Listening
Collaboration
Adaptability and Interest in New Learning
Empathy and Kindness
Citizenship and Civic Responsibility
Questioning, Reasoning and Problem Solving
Branford Public Schools
Learning Today, Leading Tomorrow

BRANFORD HIGH SCHOOL
NEW COURSE PROPOSAL FORM

Course Title: ECE Medical Terminology (UConn)

Credit: 1.0

Credit Area(s): Science, STEM elective

Course Proposed by:

- ☑ Administration
- Board of Education
- ☑ Department
- Students (in collaboration with faculty)
- Other (specify):_____

New courses must embed indicators of deep learning:

- Feedback: Providing continuous skills development, recognizing progress at each stage, while incorporating mentoring, feedback, and support throughout the learning process.
- Content: Ensuring students progress from initial understanding to application of content by continuously reviewing and upgrading their knowledge and skills, using high-quality resources, and engaging in hands-on experiences.
- Context: Promoting intrinsic motivation and student engagement in the pursuit of learning by communicating high expectations within an environment of clear rules and procedures and nurturing relationships.
- Community: Cultivating a safe, supportive, and collaborative culture with colleagues, students, and families to optimize learning for educators and students.

Course Catalog Description:

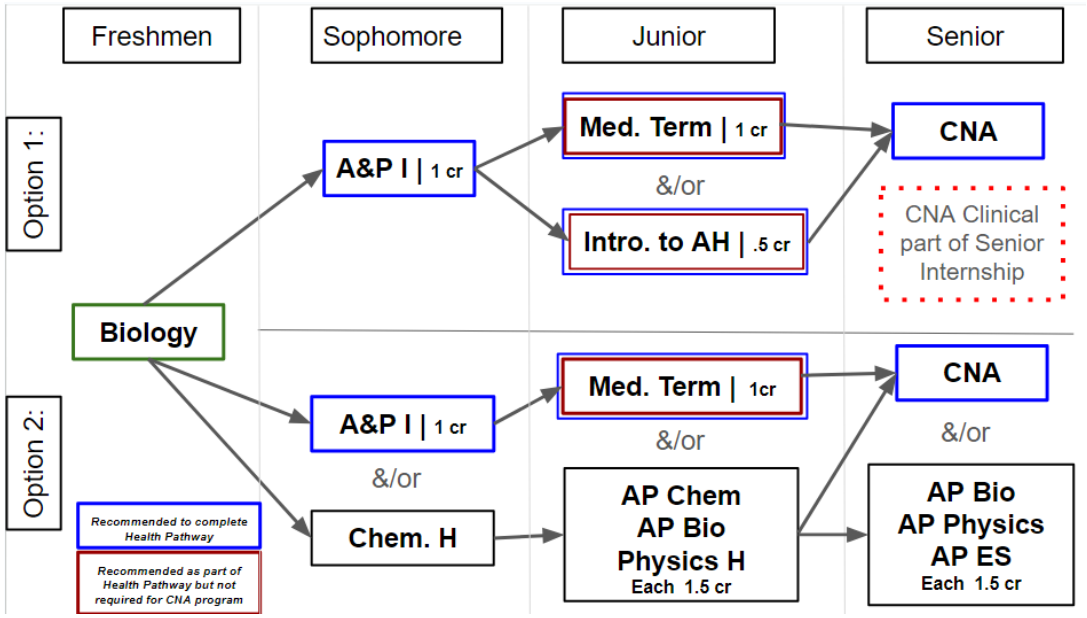
Medical terminology is a full-year course designed to develop language that will support students as they pursue a career or major in the health sciences. This course showcases medical language through the lens of each body system. As students navigate each body system, they build an understanding of the prefix, suffix and combine forms related to the system and the terms associated with common pathologies and diagnostics for that system. This course embeds multiple hands-on and virtual lab experiences to enhance their knowledge and class experience. Students will be expected to research and share their findings through case studies, projects, models, written and/or oral reports, and presentations. Students who successfully complete this course will be awarded UCONN credit.
Students may earn three college credits through the University of Connecticut's Early College Experience (ECE) program.

Prerequisite(s):

Anatomy & Physiology I

COURSE/DEPARTMENT INFORMATION

How does this course fit into the course offerings? Establish a flow chart of courses and indicate where this course will fit in. *(Is it a stand alone, is it part of a sequence or is it replacing another course?)*



How many electives does your department currently offer and what are they?

- AP/ECE Biology
- AP Chemistry
- Anatomy/Physiology
- Forensics
- AP Physics
- Natural Disasters
- Investigating Life Beyond Earth
- Marine Biology
- Environmental A/B
- AP Environmental Science

Who is your target audience?

High school students who have an interest in pursuing careers within the Science or Healthcare fields.

What are the pros and cons of this submission? Have these been thoroughly discussed by the department?

This submission has been thoroughly researched, analyzed, and developed to provide all learners at BHS the opportunity to take this course via various tracks at any time during high school. This course is a foundation within the Healthcare Pathways Program (series of courses designed to support student needs and implementation of a Certified Nursing Assistant (CNA) program at BHS) and it was decided to also offer this course as a valuable Science elective to all students.

Does this submission have the full support of the department? Describe any steps taken to gain or measure the level of support.

Yes. This is a foundational course for the Allied Health Career Pathway at BHS. All department leaders, administrators, and the Guidance Department have been involved in this process.

RATIONALE

How does this course contribute to the department's goals and align with the department's standards?

This course contributes to the alignment of all Science courses and electives offered at BHS (see Flowchart above). It supports our Theory of Action (If we create an environment where all members take ownership in building a community, then students will feel a strong sense of belonging and engage in meaningful learning) by supporting the interests of our students and building a supportive community that prepares students for life after high school. It is in alignment with the National Health Science Standards:

1.1.1 Describe the organization of the human body and directional terms.
1.1.2 Identify basic structures and describe functions of human body systems.
2.1 Concepts of Effective Communication
2.2 Medical Terminology
2.2.1 Use common roots, prefixes, and suffixes to communicate information.
8.2 Team Member Participation

What is the need this course addresses?

As we continue to develop our Allied Health Career Pathway and Certified Nursing Assistant (CNA) Program, it was determined that this course would offer additional exposure to medical information and terminology that will give a strong base for all students at Branford High School who are interested in pursuing a career in the medical field. This course would also satisfy graduation credit requirements for STEM electives.

In what ways will deep learning occur throughout the course? *(See the definition of deep learning at the top of the document.)*

Indicators of Deep Learning

1. **Feedback:** Encourage students to set personal learning goals (related to their intended healthcare field, e.g., nursing, medical research, physical therapy) at the start and reflect on these throughout the course, fostering a sense of ownership and purpose. Implement a UCONN mastery-based learning model, where students must achieve proficiency in each unit before progressing.
2. **Content** *Digital Learning Tools:* Integrate online platforms with interactive glossaries, practice quizzes, and flashcards to enhance student engagement outside the classroom. *Guest Lectures and Virtual Tours:* Provide access to guest speakers from medical fields and virtual tours of clinical settings to deepen real-world relevance and understanding.
3. **Context:** Use simulated patient case studies to apply terminology in realistic clinical scenarios. Organize small-group workshops focused on hands-on activities like dissecting terms and using visual aids to reinforce anatomical vocabulary.
4. **Community:** Establish study groups and peer review sessions to create a collaborative learning environment.

How does this course support the Global Learning Competencies? You may refer to the existing or newly revised GLCs (see page 4).

Communication & Active Listening:
Encourage open dialogues in case studies where students actively listen to peers' interpretations and terminology usage, refining understanding and communication.

Collaboration:
Facilitate collaborative projects where students work together to dissect medical cases, discuss possible diagnoses, and present findings as a team.

Adaptability and Interest in New Learning:
Allow students to adjust their learning goals to explore new interests within the medical terminology field, reinforcing a growth mindset.

Empathy and Kindness:
Present cases that include patient stories to emphasize empathy in understanding patient experiences, the importance of kind, clear communication in healthcare settings, and foster a classroom culture of kindness and support through constructive, empathetic peer feedback during presentations and case study reviews.

Citizenship and Civic Responsibility: Explore the role of medical terminology in public health and discuss the importance of health literacy as a civic responsibility, encouraging students to consider how they can make medical information accessible.

Questioning, Reasoning, & Problem Solving: Use problem-solving case scenarios that require students to apply medical terminology in diagnosing or creating treatment plans, sharpening analytical and reasoning skills.

BUDGET AND FACILITY CONSIDERATIONS

Staffing Requirements:

Will this create an additional staffing need within the department?

No additional staff needed. UCONN ECE training and certification will be required for 2 current Anatomy & Physiology teachers.

Budget Requirements:

Equipment, materials, textbooks? Please distinguish between a one time only and a yearly expense.

Medical Terminology, An Online Course: Online Access by Cohen, 9th edition. Jones and Bartlett

Publishing. Includes an electronic book and access code to AH 2001 Online Junction course. ISBN: 9781284227079 No anticipated yearly expenses, after the initial purchase of the text above.

Facility Requirements:

Additional FTE required	0
Minimum number of students required to run the class	8
Anticipated/estimated enrollment for year one	24-50

Is there classroom availability within the department for this class? If not, how will this class be accommodated within the school?

Yes, it will be held in the current Anatomy & Physiology classrooms.

Are there physical needs or limitations for this course? (water, power, room size, etc.)

None

AH 2001 Course Outline provided by UCONN:

Week 1: Ch. 1 Concepts, Suffixes, and Prefixes of Medical Terminology
Week 2: Ch. 2 Body Structure
Week 3: Ch. 3 Disease and Treatment
Week 4: Ch. 4 Integumentary System & Ch. 5 Skeletal System
Week 5: Ch. 6 Muscular System
Week 6: Ch. 7 Nervous System and Mental Health
Week 7: Ch. 8 Special Senses: Ear and Eye
Week 8: Ch. 9 Endocrine System
Week 9: Ch. 10 Cardiovascular and Lymphatic Systems
Week 10: Ch. 11 Blood and Immunity & Ch. 12 Respiratory System
Week 11: Ch. 13 Digestive System
Week 12: Ch. 14 Urinary System
Week 13: Ch. 15 Male Reproductive System
Week 14: Ch. 16 Female Reproductive System; Pregnancy and Birth

STAGE ONE LEARNING PLAN
***Each unit needs to have a Stage One Plan**

<table>
<tr><th colspan="3">Unit Focus</th></tr>
<tr><td colspan="3">Unit 1: Medical Terminology, Body Structure, Disease & Treatment
By the end of this unit, students will not only possess a solid understanding of the human body's organization and function but will also be adept at communicating complex medical information effectively. This skill set will prepare them for future careers in healthcare and empower them to contribute positively to patient care and interdisciplinary collaboration. Ultimately, students will emerge as informed, ethical, and capable communicators ready to meet the challenges of the healthcare environment.</td></tr>
<tr><th colspan="3">Learning Goals</th></tr>
<tr><th>Established Goals</th><th colspan="2">Transfer</th></tr>
<tr><th>Standards</th><th colspan="2">Long Term Transfer Goals</th></tr>
<tr><td rowspan="4">1.1.1 Describe the organization of the human body and directional terms.

1.1.2 Identify basic structures and describe functions of human body systems.

2.1 Concepts of Effective Communication
2.2 Medical Terminology

2.2.1 Use common roots, prefixes, and suffixes to communicate information.

8.2 Team Member Participation</td><td colspan="2">Students will be able to effectively communicate complex medical information using appropriate terminology and demonstrate a comprehensive understanding of the organization and functions of the human body. They will apply this knowledge in real-world healthcare settings, collaborating with team members to enhance patient care and support interdisciplinary communication.</td></tr>
<tr><td colspan="2">Meaning</td></tr>
<tr><td>Understandings</td><td>Essential Questions</td></tr>
<tr><td>● Determine and define common prefixes and suffixes.

● Explain the structure of medical terms and their components.

● Apply knowledge by constructing and deconstructing medical terms.

● Apply body structure terminology in context.

● Explain the terminology related to common diseases and their treatments.

● Analyze the relationship between medical terminology and healthcare practices.

● Develop skills to discuss disease concepts using appropriate terminology.</td><td>● What strategies can we use to effectively determine and define common prefixes and suffixes, and why are they important in medical terminology?
● How does understanding the structure of medical terms and their components aid in deciphering unfamiliar medical vocabulary?
● In what ways can the skills of constructing and deconstructing medical terms enhance our ability to communicate effectively in healthcare environments?
● In what practical ways can we apply body structure terminology in clinical settings to improve patient interactions and outcomes?
● How does understanding the terminology related to common diseases and their treatments enhance patient care and communication?</td></tr>
</table>

<table>
<tr><td></td><td></td><td>

- What is the significance of analyzing the relationship between medical terminology and healthcare practices, and how does it affect patient outcomes?
- How can we develop effective communication skills to discuss disease concepts using appropriate terminology, and why is this skill critical in healthcare?

</td></tr>
<tr><td>Other Goals</td><td colspan="2">Acquisition of Knowledge & Skill</td></tr>
<tr><td></td><td>Knowledge</td><td>Skills</td></tr>
<tr><td></td><td>

Basic Structures and Functions of Human Body Systems

- Overview of major body systems (e.g., skeletal, muscular, circulatory, respiratory, digestive, nervous, endocrine, immune).
- Basic anatomical structures within each system and their functions.
- Interrelationships between body systems and how they maintain homeostasis.

Concepts of Effective Communication

- Importance of clear communication in healthcare settings.
- Principles of effective verbal and non-verbal communication.

Medical Terminology

- Understanding common medical roots, prefixes, and suffixes.
- The role of medical terminology in documentation and patient care.

</td><td>

Analytical Skills

- Identify and analyze the functions of various body systems.
- Evaluate how different systems interact to maintain homeostasis.

Communication Skills

- Utilize effective communication techniques to relay medical information.
- Use medical terminology accurately in verbal and written communication.

Terminology Application Skills

- Construct and deconstruct medical terms using common roots, prefixes, and suffixes.
- Apply medical terminology in clinical documentation and patient interactions.

Collaboration Skills

- Engage effectively in team discussions and decision-making processes.
- Contribute meaningfully to group tasks and projects,

</td></tr>
</table>

	● Importance of precise language in healthcare to reduce misunderstandings. **Team Member Participation** ● Roles and responsibilities of team members in a healthcare setting. ● Strategies for effective collaboration and communication within a team.	demonstrating teamwork and respect for others' contributions. **Critical Thinking Skills** ● Assess and interpret medical information in a clinical context. ● Solve problems using medical terminology and concepts related to body systems.

<table>
<tr><th colspan="3">Unit Focus</th></tr>
<tr><td colspan="3">Unit 2:Integumentary System & Skeletal System, Muscular System
By the end of this unit, students will have a solid foundation in medical terminology related to the integumentary, skeletal, and muscular systems. They will possess the skills necessary to accurately communicate complex medical information, enhancing their readiness for future studies and careers in healthcare. This unit will empower students to engage confidently in health-related conversations and collaborate effectively with healthcare professionals, ultimately contributing to improved patient care and outcomes.</td></tr>
<tr><th colspan="3">Learning Goals</th></tr>
<tr><th>Established Goals</th><th colspan="2">Transfer</th></tr>
<tr><th>Standards</th><th colspan="2">Long Term Transfer Goals</th></tr>
<tr><td rowspan="4">1.1.1 Describe the organization of the human body and directional terms.

1.1.2 Identify basic structures and describe functions of human body systems.

2.1 Concepts of Effective Communication
2.2 Medical Terminology

2.2.1 Use common roots, prefixes, and suffixes to communicate information.

8.2 Team Member Participation</td><td colspan="2">Students will be able to accurately interpret, use, and communicate medical terminology related to the integumentary, skeletal, and muscular systems when encountering real-world clinical scenarios, reading professional medical literature, or engaging in health-related conversations. They will be able to analyze and construct medical terms to describe diagnoses, conditions, treatments, and anatomical structures within these systems, enabling clear and precise communication with healthcare professionals and patients.</td></tr>
<tr><th colspan="2">Meaning</th></tr>
<tr><th>Understandings</th><th>Essential Questions</th></tr>
<tr><td>Integumentary System
● Structure and Function: Understand the anatomy of the skin, including layers (epidermis, dermis, hypodermis) and associated structures (hair, nails, glands). Recognize the protective, regulatory, and sensory functions of the integumentary system.</td><td>Integumentary System
● What roles does the integumentary system play in protecting the body and regulating its internal environment?
● How do the structure and function of skin layers contribute to overall skin health?</td></tr>
</table>

	• **Common Terminology:** Familiarize with medical terms related to skin conditions (e.g., dermatitis, eczema, psoriasis) and procedures (e.g., biopsy, excision). • **Pathology and Treatment**: Identify common diseases of the integumentary system, their causes, symptoms, and treatment options, including medications and surgical interventions. **Skeletal System** • **Bone Structure and Function:** Understand the composition of bones, types of bones (long, short, flat, irregular), and the functions of the skeletal system, including support, movement, and protection. • **Terminology:** Learn the terminology related to bone anatomy (e.g., diaphysis, epiphysis, marrow) and common conditions (e.g., osteoporosis, fractures, arthritis). **Muscular System** • **Joint Mechanics:** Explore the types of joints (e.g., synovial, fibrous, cartilaginous), their movements, and associated terminology (e.g., flexion, extension, abduction). • **Muscle Anatomy:** Recognize the major muscle groups, muscle types (skeletal, cardiac, smooth), and their roles in movement and function.	• In what ways can understanding medical terminology related to skin conditions improve patient communication and care? **Skeletal System** • How does the composition of different types of bones influence their function within the skeletal system? • What are the implications of common skeletal conditions on a person's mobility and overall health? • How do joints facilitate movement, and what are the different types of joint movements that occur in the body? **Muscular System** • What are the key differences between skeletal, cardiac, and smooth muscle, and how do these differences affect their functions? • How can injuries and diseases of the muscular system impact a person's daily life and physical capabilities? • In what ways do the muscular and skeletal systems interact to produce coordinated movement?

	• **Muscle Terminology:** Understand terms related to muscle contraction (e.g., isotonic, isometric), injuries (e.g., strains, tears), and diseases (e.g., muscular dystrophy). • **Interactions with Other Systems:** Analyze how the muscular system interacts with the skeletal system for movement and how it works with the nervous system for coordination and control.	
Other Goals	**Acquisition of Knowledge & Skill**	
	Knowledge	**Skills**

	Integumentary System: Structure and function of skin, hair, nails **Skeletal System:** Major bones, joint types, and their functions **Muscular System:** Types of muscles (skeletal, smooth, cardiac) and muscle functions ● Key organs and their roles in each system ● Interrelationships between systems (e.g., how muscles move bones) ● Basic medical vocabulary related to the integumentary, skeletal, and muscular systems	**Anatomical Identification** ● Ability to locate and identify major structures in diagrams/models of the integumentary, skeletal, and muscular systems. **Application of Directional Terms** ● Use of directional terms to describe locations of structures within the integumentary, skeletal, and muscular systems relative to one another **Terminology Proficiency** ● Ability to break down and understand medical terms using roots, prefixes, and suffixes related to the integumentary, skeletal, and muscular systems. **Critical Thinking** ● Analyzing case studies related to disorders of the integumentary, skeletal, and muscular systems and proposing potential interventions or treatments.

Unit Focus	
Unit 3: Nervous System and Mental Health, Special Senses: Ear and Eye By the end of this unit, students will have developed a comprehensive understanding of the nervous system, mental health, and special senses. They will be prepared to analyze and communicate complex information effectively, fostering meaningful interactions with patients and colleagues. Through their contributions to collaborative healthcare teams, students will enhance patient care and outcomes, empowering them to become compassionate and competent future healthcare professionals.	
Learning Goals	
Established Goals	**Transfer**
Standards	**Long Term Transfer Goals**

1.1.1 Describe the organization of the human body and directional terms. 1.1.2 Identify basic structures and describe functions of human body systems. 2.1 Concepts of Effective Communication 2.2 Medical Terminology 2.2.1 Use common roots, prefixes, and suffixes to communicate information. 8.2 Team Member Participation	Students will be able to effectively analyze, communicate, and apply knowledge related to the nervous system, mental health, and the special senses (ear and eye) in real-world healthcare settings. They will demonstrate a comprehensive understanding of anatomy and terminology, engage in meaningful interactions with patients and colleagues, and contribute to collaborative healthcare teams to enhance patient care and outcomes.	
	Meaning	
	Understandings	**Essential Questions**
	● Understand the structure and function of the nervous system. ● Explore mental health concepts and terminology. ● Describe the anatomy and functions of the ear and eye. ● Develop effective communication skills using appropriate medical terminology. ● Determine the major components of the nervous system (CNS and PNS). ● Explain the functions of neurons and neurotransmitters. ● Discuss the importance of the nervous system in overall health. ● Understand common mental health disorders and their terminology. ● Explore the impact of mental health on overall well-being. ● Determine treatment options and interventions for mental health issues. ● Identify the anatomy of the ear and its functions in hearing and balance. ● Understand common ear disorders and related terminology. ● Discuss the impact of ear disorders on communication and quality of life.	● What are the major components of the nervous system, and how do they interact to maintain bodily functions? ● How do neurons and neurotransmitters contribute to the communication within the nervous system, and why is this communication vital for overall health? ● In what ways can disorders of the nervous system affect an individual's daily life and overall well-being? ● What are the key characteristics of common mental health disorders, and how do they impact individuals and their families? ● How does mental health influence overall physical health, and why is it essential to integrate mental health awareness into healthcare practices? ● What are effective treatment options for mental health disorders, and how can healthcare professionals support patients in their mental health journey? ● What is the anatomical structure of the ear, and how does each part contribute to hearing and balance?

	● Determine the anatomy of the eye and its functions in vision. ● Understand common eye disorders and related terminology. ● Discuss the importance of eye health and preventive measures.	● What are common ear disorders, and how do they affect an individual's ability to communicate and interact with their environment? ● How can early detection and treatment of ear disorders improve a person's quality of life? ● What are the major anatomical structures of the eye, and how do they work together to facilitate vision? ● What are some prevalent eye disorders, and how can understanding their terminology aid in patient education and care? ● What preventive measures can individuals take to maintain eye health and reduce the risk of vision-related disorders? ●
Other Goals	**Acquisition of Knowledge & Skill**	
	Knowledge	**Skills**
	Nervous System ● Structure and function of the central nervous system (CNS) and peripheral nervous system (PNS). ● Anatomy of neurons and the process of neurotransmission. ● Major brain regions and their functions (e.g., cerebrum, cerebellum, brainstem). ● Common neurological disorders (e.g., epilepsy, Parkinson's disease) and their impact on health. **Mental Health** ● Common mental health disorders (e.g., anxiety,	**Descriptive Skills** ● Ability to accurately describe the structures and functions of the nervous system and special senses. ● Use of medical terminology to discuss anatomical concepts. **Analytical Skills** ● Analyze case studies related to neurological and mental health disorders. ● Evaluate the impact of sensory disorders on individuals' quality of life. **Communication Skills** ● Use effective communication techniques

	depression, schizophrenia) and their characteristics. ● Basic understanding of psychological and psychiatric terms related to mental health. ● Treatment options and interventions, including psychotherapy and medication. **Special Senses: Ear** ● Anatomy of the ear: outer ear, middle ear, inner ear, and their respective functions. ● The physiology of hearing and balance. ● Common ear disorders (e.g., hearing loss, tinnitus, otitis media) and their terminology. **Special Senses: Eye** ● Anatomy of the eye: cornea, lens, retina, and their roles in vision. ● The process of vision and how the eye perceives light. ● Common eye disorders (e.g., cataracts, glaucoma, myopia) and associated terminology. **Medical Terminology** ● Knowledge of medical roots, prefixes, and suffixes relevant to the nervous system and special senses. ● Importance of precise language in healthcare communication. **Effective Communication**	when discussing medical concepts with peers and patients. ● Apply medical terminology accurately in verbal and written communications. **Terminology Application Skills** ● Construct and deconstruct medical terms using common roots, prefixes, and suffixes relevant to the nervous system and special senses. ● Translate medical terminology into patient-friendly language when necessary. **Collaboration Skills** ● Participate actively in team discussions, demonstrating respect for different viewpoints. ● Engage in collaborative problem-solving and contribute to group projects effectively. **Critical Thinking Skills** ● Assess and interpret medical information regarding the nervous system and special senses. ● Apply critical thinking to make informed decisions about patient care and health education. **Research Skills** ● Conduct research on neurological and sensory disorders to enhance understanding and stay informed about current practices and treatments.

	● Principles of effective communication in healthcare settings. ● The role of non-verbal communication and active listening in patient interactions. **Team Member Participation** ● Understanding roles within a healthcare team and the importance of collaboration. ● Techniques for effective teamwork and constructive feedback.	

Unit Focus	
Unit 4: Endocrine System, Cardiovascular and Lymphatic Systems, Blood and Immunity, Respiratory System By the end of this unit, students will possess a solid understanding of the endocrine, cardiovascular, lymphatic, blood & immunity, and respiratory systems, along with the terminology and communication skills necessary to apply this knowledge effectively. They will be prepared to analyze complex medical cases, communicate clearly with both patients and colleagues, and contribute meaningfully to collaborative healthcare teams. This foundation will support them in their future roles in healthcare, where clear communication and teamwork are essential to improving patient care and outcomes.	
Learning Goals	
Established Goals	**Transfer**
Standards	**Long Term Transfer Goals**
1.1.1 Describe the organization of the human body and directional terms. 1.1.2 Identify basic structures and describe functions of human body systems.	Students will be able to effectively analyze, communicate, and apply knowledge related to the endocrine system, cardiovascular and lymphatic systems, blood and immunity, and the respiratory system in real-world healthcare settings. They will demonstrate a comprehensive understanding of anatomy and terminology, engage in meaningful interactions with patients and colleagues, and contribute to collaborative healthcare teams to enhance patient care and outcomes.
	Meaning
	Understandings / **Essential Questions**

2.1 Concepts of Effective Communication 2.2 Medical Terminology 2.2.1 Use common roots, prefixes, and suffixes to communicate information. 8.2 Team Member Participation	● Understand the structure and function of the endocrine system and its role in homeostasis. ● Determine the components and functions of the cardiovascular and lymphatic systems. ● Explore the structure and functions of blood, immunity, and the immune response. ● Describe the anatomy and physiology of the respiratory system and its importance in gas exchange. ● Determine the major glands of the endocrine system and their functions. ● Explain the role of hormones in regulating bodily functions and maintaining homeostasis. ● Discuss common endocrine disorders and their effects on health. ● Determine the components and functions of the cardiovascular system (heart, blood vessels, blood). ● Understand the role of the lymphatic system in immune function and fluid balance. ● Discuss common cardiovascular disorders and their impact on health. ● Understand the composition and functions of blood, including red and white blood cells, platelets, and plasma. ● Explain the immune response and the role of various immune cells in protecting the body. ● Discuss common blood disorders and their implications for health.	● What are the major glands of the endocrine system, and how do their hormones influence bodily functions? ● How do feedback mechanisms regulate hormone levels, and what is their significance in maintaining homeostasis? ● What are common endocrine disorders, and how do they impact an individual's health and daily life? ● What are the key components of the cardiovascular system, and how do they work together to transport blood throughout the body? ● What role does the lymphatic system play in immune function and fluid balance in the body? ● How do cardiovascular disorders affect overall health, and what preventive measures can be taken to mitigate these risks? ● What are the components of blood, and what roles do each of these components play in maintaining health? ● How does the immune response function to protect the body against pathogens, and what are the roles of different immune cells? ● What are common blood disorders, and how do they affect an individual's health and well-being? ● What is the anatomy of the respiratory system, and how does each structure contribute to the process of gas exchange? ● How do the mechanics of breathing work, and what

<table>
<tr><td></td><td>● Determine the anatomy of the respiratory system and its role in gas exchange.
● Explain the mechanics of breathing and the regulation of respiration.
● Discuss common respiratory disorders and their effects on health.</td><td>regulatory mechanisms control respiration?
● What are common respiratory disorders, and how do they impact an individual’s ability to breathe and perform daily activities?</td></tr>
<tr><td>Other Goals</td><td colspan="2">Acquisition of Knowledge & Skill</td></tr>
<tr><td></td><td>Knowledge</td><td>Skills</td></tr>
<tr><td></td><td>Endocrine System

● Major glands (pituitary, thyroid, adrenal, etc.) and their functions.
● Hormonal regulation and feedback mechanisms that maintain homeostasis.
● Common endocrine disorders (e.g., diabetes, hyperthyroidism) and their health implications.

Cardiovascular System

● Anatomy of the heart, blood vessels (arteries, veins, capillaries), and their functions.
● Blood flow through the heart and the circulatory system.
● Common cardiovascular diseases (e.g., hypertension, coronary artery disease) and risk factors.

Lymphatic System

● Components of the lymphatic system (lymph nodes, lymph vessels, spleen, etc.) and their roles.
● The relationship between the lymphatic system and the immune system.
● Conditions affecting the lymphatic system (e.g., lymphedema).</td><td>Descriptive Skills

● Accurately describe the structure and functions of the endocrine, cardiovascular, lymphatic, blood, and respiratory systems.
● Use medical terminology correctly in verbal and written communications.

Analytical Skills

● Analyze case studies related to endocrine, cardiovascular, lymphatic, blood, and respiratory disorders.
● Evaluate the implications of various health conditions on patient care and outcomes.

Communication Skills

● Demonstrate effective communication techniques when discussing medical concepts with peers and patients.
● Apply medical terminology accurately in clinical scenarios and documentation.

Terminology Application Skills

● Construct and deconstruct medical terms using common roots, prefixes, and suffixes relevant to the body systems studied.</td></tr>
</table>

	Blood and Immunity ● Composition of blood (red blood cells, white blood cells, platelets, plasma) and their functions. ● The immune response, including the roles of various immune cells (e.g., lymphocytes, phagocytes). ● Common blood disorders (e.g., anemia, leukemia) and their impact on health. **Respiratory System** ● Anatomy of the respiratory system (nose, trachea, lungs, diaphragm) and their functions in gas exchange. ● Mechanisms of breathing and the regulation of respiration. ● Common respiratory disorders (e.g., asthma, COPD) and their effects on health. **Medical Terminology** ● Understanding medical roots, prefixes, and suffixes relevant to the endocrine, cardiovascular, lymphatic, blood, and respiratory systems. ● Importance of accurate terminology in healthcare communication. **Effective Communication** ● Principles of effective communication in healthcare settings, including active listening and clarity. ● The role of empathy in patient interactions and team collaboration. **Team Member Participation**	● Translate complex medical terminology into patient-friendly language as necessary. **Collaboration Skills** ● Actively participate in healthcare team discussions, showing respect for diverse roles and contributions. ● Engage in collaborative problem-solving and contribute to group projects effectively. **Critical Thinking Skills** ● Assess and interpret medical information regarding the endocrine, cardiovascular, lymphatic, blood, and respiratory systems. ● Apply critical thinking to make informed decisions about patient care and health education. **Research Skills** ● Conduct research on endocrine, cardiovascular, lymphatic, blood, and respiratory disorders to stay informed about current practices and treatments.

	● Understanding of roles within a healthcare team and the importance of collaboration and respect. ● Techniques for providing constructive feedback and working effectively in group settings.	

Unit Focus		
Unit 5: Digestive System & Urinary System By the end of this unit on the digestive and urinary systems, students will develop the skills to accurately use and interpret medical terminology essential to these systems' functions, structure, and common conditions. By learning key roots, prefixes, and suffixes, along with directional and anatomical terms, students will build confidence in communicating patient information, diagnosing conditions, and discussing treatments within healthcare settings. Through collaborative activities and case-based learning, students will apply these skills to simulate real-world scenarios, enhancing their ability to support patient care, work effectively in teams, and contribute to accurate medical documentation.		
Learning Goals		
Established Goals	**Transfer**	
Standards	**Long Term Transfer Goals**	
1.1.1 Describe the organization of the human body and directional terms. 1.1.2 Identify basic structures and describe functions of human body systems. 2.1 Concepts of Effective Communication 2.2 Medical Terminology 2.2.1 Use common roots, prefixes, and suffixes to communicate information. 8.2 Team Member Participation	Students will be able to accurately use and interpret medical terminology related to the digestive and urinary systems to communicate patient information, diagnose conditions, and describe treatments in clinical and collaborative healthcare settings. They will confidently apply anatomical terminology, including directional terms and key linguistic roots, prefixes, and suffixes, to understand, describe, and discuss body structures and functions within these systems. Over time, students will use this knowledge to enhance patient understanding, collaborate effectively with healthcare team members, and contribute to accurate medical documentation and patient care.	
	Meaning	
	Understandings	**Essential Questions**
	Digestive System ● Structure and Function: Understanding the key anatomical structures and functions of the digestive system is essential to accurately describing digestion, absorption, and nutrient processing.	**Digestive System** ● How do the structures of the digestive system work together to process food and absorb nutrients? ● What are the key roots, prefixes, and suffixes in digestive system terminology, and how do

	● Root Words, Prefixes, and Suffixes: Recognizing root words and decoding complex terminology related to digestive processes and organs. ● Common Conditions and Diseases: Knowledge of terms related to diseases (e.g., gastroenteritis, hepatitis) and conditions (e.g., dysphagia, GERD) is essential to understanding and describing digestive system disorders. ● Diagnostic Procedures: Understanding terminology related to diagnostic tests (e.g., colonoscopy, endoscopy) is essential for discussing procedures used in diagnosing digestive system issues. ● Surgical and Therapeutic Terms: Familiarity with terms describing common surgical procedures (e.g., cholecystectomy) and therapies (e.g., antacids, laxatives) aids in communicating treatment plans and interventions. **Uriniary System** ● Anatomy and Physiology: A foundational understanding of the structures and functions of the urinary system (e.g., kidneys, ureters, bladder) is critical for describing how the body filters and removes waste. ● Medical Terminology Structure: Recognizing the roots, prefixes, and suffixes specific to urinary system terminology (e.g., nephro-, uro-, -uria) helps students decode and	they help us understand complex terms? ● How do medical professionals use specific terms to identify, describe, and diagnose digestive system conditions? ● What terminology is used to explain common diagnostic procedures for the digestive system, and why is precision in these terms critical? ● How do terms related to surgical and therapeutic treatments inform healthcare providers and patients about care options and interventions for digestive disorders? **Urinary System** ● How does the anatomy of the urinary system support its role in filtering and removing waste from the body? ● What linguistic patterns (roots, prefixes, suffixes) are common in urinary system terminology, and how do they aid in building and interpreting medical terms? ● What specific terms are used to describe diseases and conditions affecting the urinary system, and how do these terms aid in understanding patient symptoms and treatment options? ● How are diagnostic and laboratory tests for the urinary system described using medical terminology, and what is their role in identifying urinary system health issues?

	accurately use terms related to urinary health. ● Diseases and Conditions: Terms for common urinary system disorders (e.g., nephritis, cystitis, uremia) are necessary for understanding and discussing symptoms, diagnoses, and impacts on urinary function. ● Diagnostic and Laboratory Tests: Familiarity with terms related to urinary diagnostics (e.g., urinalysis, cystoscopy) and their meanings is essential for describing testing methods used to evaluate urinary health. ● Treatment and Medications: Knowing terms for medications and treatments (e.g., diuretics, dialysis) enhances the ability to discuss options and approaches in managing urinary system diseases.	● What terms are essential for discussing treatment options and medications for urinary system disorders, and how do they support effective patient care and communication?
Other Goals	**Acquisition of Knowledge & Skill**	
	Knowledge	**Skills**
	Basic Structures and Functions of Human Body Systems: ● Digestive System: Key structures (mouth, esophagus, stomach, intestines, liver, pancreas) and functions (ingestion, digestion, absorption, excretion). ● Urinary System: Key structures (kidneys, ureters, bladder, urethra) and functions (filtration, waste elimination, electrolyte balance). **Medical Terminology:**	**Identifying and Describing Anatomical Structures:** ● Using anatomical terminology to accurately locate and describe the parts of the digestive and urinary systems. ● Practicing dissection or model-building exercises to visualize organ structure and spatial orientation. **Applying Medical Terminology:** ● Using roots, prefixes, and suffixes to accurately form and interpret medical terms related to both systems.

	● Common roots, prefixes, and suffixes related to the digestive (e.g., gastro-, entero-, -itis) and urinary systems (e.g., nephro-, uro-, -uria). ● Abbreviations and symbols commonly used in medical documentation for these systems.	● Practicing decoding unfamiliar medical terms based on knowledge of linguistic patterns. **Effective Communication:** ● Developing written and oral skills to clearly explain medical terms and concepts to patients, family members, and team members. ● Role-playing scenarios to practice conveying complex information in an understandable way for various audiences. **Collaborating with Team Members:** ● Participating in collaborative projects, discussions, or simulations that require teamwork to diagnose or treat a digestive or urinary system condition. ● Practicing active listening, providing constructive feedback, and building consensus within a group setting. **Analyzing Case Studies:** ● Reviewing and interpreting patient case studies that involve conditions of the digestive and urinary systems. ● Applying knowledge of medical terminology and anatomy to diagnose and suggest treatment approaches for hypothetical patient cases.

<table>
<tr><th colspan="3">Unit Focus</th></tr>
<tr><td colspan="3">Unit 6: Male Reproductive System, Female Reproductive System, Pregnancy and Birth
In this unit, students will embark on an in-depth exploration of the male and female reproductive systems, the complexities of pregnancy, and the process of childbirth. With a strong emphasis on effective communication and medical terminology, students will learn to articulate complex medical concepts clearly and empathetically. This unit aims not only to provide foundational knowledge about human anatomy and physiology but also to equip students with essential skills for real-world healthcare settings.</td></tr>
<tr><th colspan="3">Learning Goals</th></tr>
<tr><th>Established Goals</th><th colspan="2">Transfer</th></tr>
<tr><th>Standards</th><th colspan="2">Long Term Transfer Goals</th></tr>
<tr><td rowspan="3">1.1.1 Describe the organization of the human body and directional terms.

1.1.2 Identify basic structures and describe functions of human body systems.

2.1 Concepts of Effective Communication
2.2 Medical Terminology

2.2.1 Use common roots, prefixes, and suffixes to communicate information.

8.2 Team Member Participation</td><td colspan="2">Students will be able to effectively analyze, communicate, and apply knowledge related to the male and female reproductive systems, pregnancy, and childbirth in real-world healthcare settings. They will demonstrate a comprehensive understanding of anatomy and terminology, engage in meaningful interactions with patients and colleagues, and contribute to collaborative healthcare teams to enhance patient care and outcomes.</td></tr>
<tr><th colspan="2">Meaning</th></tr>
<tr><th>Understandings</th><th>Essential Questions</th></tr>
<tr><td>● Understand the anatomy and physiology of the male and female reproductive systems.
● Determine common disorders and diseases affecting the reproductive systems.
● Explore the stages of pregnancy and the process of childbirth.
● Develop medical terminology related to reproduction and maternal health.
● Determine the anatomy of the male reproductive system and its functions.
● Explain the hormonal regulation of male reproductive functions.
● Discuss common male reproductive disorders and their implications.
● Determine the anatomy of the female reproductive system and its functions.</td><td>● What are the key structures of the male reproductive system, and what roles do they play in male fertility?
● How does hormonal regulation influence male reproductive functions, including sperm production and sexual health?
● What are common disorders of the male reproductive system, and how do they affect overall health and well-being?
● What are the main components of the female reproductive system, and how do they work together to facilitate reproduction?
● How does the menstrual cycle function, and what hormonal changes occur during this process?
● What are prevalent disorders affecting the female reproductive system, and what impact</td></tr>
</table>

	● Explain the menstrual cycle and hormonal regulation of female reproductive functions. ● Discuss common female reproductive disorders and their effects on health. ● Understand the stages of pregnancy and fetal development. ● Explain the physiological changes in the female body during pregnancy. ● Discuss prenatal care and its importance for maternal and fetal health. ● Describe the process of labor and delivery. ● Explain the stages of childbirth and common interventions. ● Discuss postpartum care and its importance for maternal health.	do they have on health and fertility? ● What are the key stages of pregnancy, and what developmental milestones occur for the fetus during each trimester? ● How does the female body adapt physiologically during pregnancy to support fetal growth and development? ● What role does prenatal care play in ensuring the health of both the mother and the developing fetus? ● What are the stages of labor, and what physiological changes occur during each stage of childbirth? ● What methods of delivery are available, and how do healthcare providers determine the best approach for each individual? ● What is the significance of postpartum care, and what challenges might new mothers face after giving birth?
Other Goals	**Acquisition of Knowledge & Skill**	
	Knowledge	**Skills**
	Male Reproductive System ● Anatomy: Identify the key structures such as testes, epididymis, vas deferens, prostate gland, seminal vesicles, and penis. ● Functions: Understand the role of these structures in sperm production, storage, and delivery. ● Hormonal Regulation: Explain the role of hormones like testosterone and luteinizing hormone	**Descriptive Skills** ● Accurately describe the structure and functions of the male and female reproductive systems, as well as pregnancy and childbirth processes. ● Use appropriate medical terminology in both written and verbal communication. **Analytical Skills**

	(LH) in male reproductive health. ● Common Disorders: Recognize conditions such as erectile dysfunction, benign prostatic hyperplasia, and infertility. **Female Reproductive System** ● Anatomy: Identify key structures such as ovaries, fallopian tubes, uterus, cervix, and vagina. ● Functions: Understand the role of these structures in ovulation, fertilization, and pregnancy. ● Menstrual Cycle: Describe the phases of the menstrual cycle and the hormonal changes that occur (follicular phase, ovulation, luteal phase). ● Common Disorders: Recognize conditions such as polycystic ovary syndrome (PCOS), endometriosis, and uterine fibroids. **Pregnancy** ● Stages of Pregnancy: Identify the three trimesters and the key developmental milestones for the fetus in each stage. ● Physiological Changes: Understand how the body adapts during pregnancy (e.g., changes in hormone levels, blood volume, and organ function). ● Prenatal Care: Explain the importance of prenatal care and the types of assessments performed (e.g., ultrasounds, blood tests).	● Analyze case studies related to reproductive health and pregnancy, identifying key factors and potential interventions. ● Evaluate the implications of reproductive health disorders on individual and societal health. **Communication Skills** ● Demonstrate effective communication techniques when discussing sensitive topics related to reproductive health with patients and colleagues. ● Apply medical terminology accurately in clinical documentation and patient education. **Terminology Application Skills** ● Construct and deconstruct medical terms using common roots, prefixes, and suffixes relevant to reproductive health. ● Translate complex medical terminology into language that is understandable to patients. **Collaboration Skills** ● Actively participate in group discussions and projects, respecting diverse roles and contributions within a healthcare team. ● Engage in collaborative problem-solving regarding reproductive health issues. **Critical Thinking Skills** ● Assess and interpret medical information regarding the male and

	Birth ● Stages of Labor: Describe the stages of labor (early labor, active labor, delivery, and postpartum). ● Delivery Methods: Understand the different methods of delivery (vaginal birth, cesarean section) and the circumstances that influence these choices. ● Postpartum Care: Explain the significance of postpartum care for new mothers and common challenges they may face. **Medical Terminology** ● Terminology: Use medical roots, prefixes, and suffixes relevant to the reproductive system, pregnancy, and childbirth. ● Effective Communication: Recognize the importance of clear and empathetic communication in healthcare, especially concerning reproductive health. **Team Member Participation** ● Collaboration: Understand the roles of different healthcare team members in reproductive health and maternal care. ● Communication Skills: Emphasize the significance of providing constructive feedback and participating actively in team discussions.	female reproductive systems, pregnancy, and childbirth. ● Apply critical thinking to develop informed decisions regarding patient care and health education. **Research Skills** ● Conduct research on reproductive health topics to stay informed about current practices, treatments, and advancements.

<table>
<tr><th colspan="3">Unit Focus</th></tr>
<tr><td colspan="3">Blank TEMPLATE - to be removed when finished</td></tr>
<tr><th colspan="3">Learning Goals</th></tr>
<tr><th>Established Goals</th><th colspan="2">Transfer</th></tr>
<tr><th>Standards</th><th colspan="2">Long Term Transfer Goals</th></tr>
<tr><td rowspan="4">1.1.1 Describe the organization of the human body and directional terms.

1.1.2 Identify basic structures and describe functions of human body systems.

2.1 Concepts of Effective Communication
2.2 Medical Terminology

2.2.1 Use common roots, prefixes, and suffixes to communicate information.

8.2 Team Member Participation</td><td colspan="2"></td></tr>
<tr><td colspan="2">Meaning</td></tr>
<tr><td>Understandings</td><td>Essential Questions</td></tr>
<tr><td></td><td></td></tr>
<tr><th>Other Goals</th><th colspan="2">Acquisition of Knowledge & Skill</th></tr>
<tr><td rowspan="2"></td><td>Knowledge</td><td>Skills</td></tr>
<tr><td></td><td></td></tr>
</table>

Branford Public Schools Global Learning Competencies

GLCs were updated as part of the 2023 Strategic Coherence Plan. The revised GLCs are listed here for reference, though more work is needed before putting them into practice.


Communication and Active Listening
Collaboration
Adaptability and Interest in New Learning
Empathy and Kindness
Citizenship and Civic Responsibility
Questioning, Reasoning and Problem Solving
Branford Public Schools
Learning Today, Leading Tomorrow

BRANFORD HIGH SCHOOL
NEW COURSE PROPOSAL FORM

Course Title: Robotics Foundations

Credit: .5 credit

Credit Area(s): CTE, Technology Education

Course Proposed by: CTE Department

- Administration
- Board of Education
- ~~Department~~
- Students (in collaboration with faculty)
- Other (specify):_____

New courses must embed indicators of deep learning:

- Feedback: Providing continuous skills development, recognizing progress at each stage, while incorporating mentoring, feedback, and support throughout the learning process.
- Content: Ensuring students progress from initial understanding to application of content by continuously reviewing and upgrading their knowledge and skills, using high-quality resources, and engaging in hands-on experiences.
- Context: Promoting intrinsic motivation and student engagement in the pursuit of learning by communicating high expectations within an environment of clear rules and procedures and nurturing relationships.
- Community: Cultivating a safe, supportive, and collaborative culture with colleagues, students, and families to optimize learning for educators and students.

Course Catalog Description:

This course introduces students to the exciting world of robotics, focusing on essential concepts such as programming, mechanical design, and problem-solving, while also exploring careers related to robotics. Students will learn foundational skills in programming and mechanical systems using VEX V5 robots and will engage in team-based challenges to apply their knowledge in real-world contexts. Through hands-on projects and performance-based tasks, students will develop critical thinking, collaboration, and engineering skills. The course culminates in a final problem-solving challenge, allowing students to showcase their skills and creativity. Aligned with NGSS and STEL standards, Robotics Foundations requires no prerequisites and is accessible to all students interested in exploring the field.

Prerequisite(s):

None

COURSE/DEPARTMENT INFORMATION

How does this course fit into the course offerings? Establish a flow chart of courses and indicate where this course will fit in. *(Is it a stand alone, is it part of a sequence or is it replacing another course?)*

This course is a stand-alone elective, but supports the potential future development of a career pathway in Engineering and Robotics within the Career and Technical Education (CTE) Department. It complements existing courses like Hands-On Engineering and Capstone, while laying the foundation for advanced courses in robotics and manufacturing.

How many electives does your department currently offer and what are they?
There are 13 electives.

Wood Technology	**Power Technology**	**Engineering/ Design Technology**	**Drafting Technology**	**Graphic Technology**
Introductory Woodworking Advanced Woodworking	Introductory Power Technology Advanced Power Technology Automotive Mechanics Technology I/II	Hands-on Engineering Advanced Hands-on Engineering	Introductory/ Advanced Drafting Web Design and Computer Application	Introductory/ Advanced Web Design and Computer Applications Video Broadcasting and Performance

Who is your target audience?

Students in grades 9-12 with an interest in robotics, programming, mechanical design, and problem-solving. No prior experience is required, which makes the course accessible to all students.

What are the pros and cons of this submission? Have these been thoroughly discussed by the department?

Pros:
Aligns with growing student interest in robotics and engineering.
Supports STEM career pathways.
Fosters critical thinking, collaboration, and technical skills.
Accessible to all students regardless of prior experience.

Cons:
Requires investment in materials and teacher professional development; this work is supported by the Perkins Grant

Does this submission have the full support of the department? Describe any steps taken to gain or measure the level of support.

Yes, the proposal has been discussed and is fully supported. The department sees this course as a critical component of the district's commitment to STEM education and Career Pathways development.

RATIONALE

How does this course contribute to the department's goals and align with the department's standards?

This course supports department goals including growing and enhancing Career Pathways in Engineering and

Robotics. This course aligns with NGSS and STEL standards by fostering engineering design, programming, and collaboration skills while providing hands-on learning opportunities

What is the need this course addresses?

This course addresses the need for accessible STEM education, prepares students for future careers in robotics and engineering, and supports the district's focus on Career Pathways.

In what ways will deep learning occur throughout the course? *(See the definition of deep learning at the top of the document.)*

Deep learning will occur through:

Feedback: Students receive continuous, iterative feedback through hands-on projects, peer assessments, and instructor evaluations, enabling them to refine skills at each stage.

Content: The course progresses from foundational robotics knowledge to real-world applications, emphasizing hands-on learning. Students apply skills in programming, mechanical design, and problem-solving to complete increasingly complex challenges.

Context: By connecting robotics to real-world applications, the course fosters intrinsic motivation and engagement. Clear expectations and structured activities guide students through practical, purposeful learning experiences.

Community: Team-based challenges promote collaboration, inclusivity, and shared problem-solving, creating a supportive classroom environment. The course connects students to the larger STEM community and future career pathways in robotics and engineering.

How does this course support the Global Learning Competencies? You may refer to the existing or newly revised GLCs (see page 4).

The course develops competencies in:
Collaboration: Students work in diverse teams to design, build, and program robots, engaging in shared problem-solving and fostering strong teamwork skills during real-world challenges.

Critical Thinking: Through iterative engineering tasks, students analyze problems, devise innovative solutions, and optimize their designs to meet specific criteria and constraints.

Communication: Reflective journals and project presentations encourage students to articulate their learning processes, explain design decisions, and effectively share ideas with peers and instructors

BUDGET AND FACILITY CONSIDERATIONS

Staffing Requirements:

Will this create an additional staffing need within the department?

No additional staffing is required; existing staff can teach this course

Budget Requirements:

Equipment, materials, textbooks? Please distinguish between a one time only and a yearly expense.

Vex v5 Kits are purchased through the Perkins Grant. Replacement parts are estimated at $500/year. No textbooks as the resources are available online in the Vex community.

Facility Requirements:

Additional FTE required	No
Minimum number of students required to run the class	10
Anticipated/estimated enrollment for year one	20

Is there classroom availability within the department for this class? If not, how will this class be accommodated within the school?

Yes. Additional facilities are not needed. The course will use existing lab spaces equipped with adequate power and workspace.

Are there physical needs or limitations for this course? (water, power, room size, etc.)

No

STAGE ONE LEARNING PLAN

Unit 1: Introduction to Robotics	
This unit immerses students in the exciting world of robotics, exploring its transformative impact on industries and everyday life. Through engaging activities, students delve into the basics of mechanical systems and foundational programming concepts. They will design, build, and program a simple robot to perform basic movement tasks, blending creativity and problem-solving with hands-on experience. By the end of the unit, students will gain a solid understanding of robotics principles and their real-world applications, setting the stage for deeper exploration in the field.	
Learning Goals	
Established Goals	**Transfer**
Standards	**Long Term Transfer Goals**

<table>
<tr><td rowspan="4">STEL 1B: Analyze the relationship between technology and society.
STEL 3A: Describe core concepts of technology, including systems, resources, and processes.
STEL 6A: Use the engineering design process to define problems and generate solutions.
HS-ETS1-1: Analyze a major global challenge to specify qualitative and quantitative criteria and constraints for solutions.
HS-ETS1-3: Evaluate a solution to a complex real-world problem based on prioritized criteria and trade-offs.</td><td colspan="2">Students will independently apply foundational knowledge of robotics to identify and analyze real-world problems, envisioning solutions that integrate mechanical systems and programming.</td></tr>
<tr><td colspan="2">Meaning</td></tr>
<tr><td>Understandings</td><td>Essential Questions</td></tr>
<tr><td>● Robotics integrates mechanical systems and programming to solve real-world problems.
● Foundational concepts in robotics set the stage for more advanced design and programming.
● Iterative processes and testing are essential for successful robot operation.</td><td>How do robotics impact and transform everyday life and various industries?
How can we use robotics to solve real-world problems?</td></tr>
<tr><td>Other Goals</td><td colspan="2">Acquisition of Knowledge & Skill</td></tr>
<tr><td rowspan="2"></td><td>Knowledge</td><td>Skills</td></tr>
<tr><td>● Define robotics and identify its applications in industries like healthcare, warehousing, and manufacturing.
● Recognize basic mechanical components such as gears, wheels, and motors.
● Understand the purpose and structure of basic programming commands in robotics.</td><td>● Assemble a simple robot.
● Write and debug basic programs to control robotic movement.
● Reflect on the role of robotics in various industries and career pathways.</td></tr>
</table>

<table>
<tr><th colspan="2">Unit 2: Mechanical Design and Engineering</th></tr>
<tr><td colspan="2">This unit focuses on the foundational principles of mechanical design, emphasizing stability, efficiency, and the iterative nature of the engineering design process. Students will explore key engineering concepts such as torque, balance, and load distribution, learning how these principles contribute to the functionality and reliability of robotic systems. Through hands-on challenges, students will design, build, and test robotic mechanisms, applying the engineering design process to solve complex problems. By iteratively refining their designs, students will develop a deeper understanding of how stability and balance are critical to creating efficient and functional robots.</td></tr>
<tr><th colspan="2">Learning Goals</th></tr>
<tr><th>Established Goals</th><th>Transfer</th></tr>
<tr><th>Standards</th><th>Long Term Transfer Goals</th></tr>
</table>

<table>
<tr><td rowspan="5">STEL 1C: Analyze how technology influences and is influenced by society.
STEL 2A: Identify and explain engineering principles, such as forces, loads, and torque.
STEL 7A: Apply principles of structural stability and efficiency in mechanical systems.
HS-PS2-1: Analyze data to support the claim that Newton's second law of motion describes the mathematical relationship among the net force on a macroscopic object, its mass, and its acceleration.
HS-ETS1-2: Design a solution to a complex real-world problem by breaking it down into smaller, manageable problems.</td><td colspan="2">Students will design and build stable and efficient mechanical structures, applying engineering principles to solve challenges in diverse fields such as manufacturing, healthcare, or transportation.</td></tr>
<tr><td colspan="2">Meaning</td></tr>
<tr><td>Understandings</td><td>Essential Questions</td></tr>
<tr><td>● Effective mechanical design requires stability, efficiency, and adherence to the engineering design process.
● Engineering principles such as torque, balance, and load distribution are foundational to robot functionality.
● Iterative testing refines and improves mechanical designs.</td><td>How does the engineering design process help solve complex problems?
Why is stability and balance critical in designing functional robots?</td></tr>
<tr><td colspan="3"></td></tr>
<tr><td>Other Goals</td><td colspan="2">Acquisition of Knowledge & Skill</td></tr>
<tr><td rowspan="2"></td><td>Knowledge</td><td>Skills</td></tr>
<tr><td>● Identify principles of structural stability, balance, and mechanical efficiency.
● Calculate torque and load distribution in robotic designs.
● Understand the role of the engineering design process in developing solutions.</td><td>● Design and build stable robotic structures.
● Apply mathematical reasoning to engineering challenges.
● Iterate and improve robotic designs through testing and evaluation.</td></tr>
</table>

Unit 3: Programming and Control Systems	
This unit introduces students to the core principles of programming and their role in enabling robots to perform tasks and respond autonomously to their environment. Students will explore how sensors expand a robot's ability to interact with its surroundings, fostering adaptability and precision. The unit emphasizes the importance of debugging and iterative processes in refining robotic functionality. Through hands-on projects, students will program and troubleshoot robotic systems, gaining a deeper understanding of the relationship between coding, sensors, and real-world problem-solving. By the end of the unit, students will develop critical thinking and technical skills, preparing them to create efficient and adaptable robotic systems.	
Learning Goals	
Established Goals	**Transfer**
Standards	**Long Term Transfer Goals**

<table>
<tr><td rowspan="5">STEL 2B: Explain how technological systems use feedback and control.
STEL 3C: Analyze how automation and programming improve efficiency in systems.
STEL 8B: Develop and test programs to control technological devices or systems.
HS-ETS1-4: Use a computer simulation to model the impact of proposed solutions to a complex real-world problem.
HS-PS3-3: Design, build, and refine a device that works within given constraints to convert one form of energy into another form of energy.</td><td colspan="2">Students will use programming concepts and control systems to create adaptable and autonomous technologies capable of responding dynamically to environmental conditions and task requirements.</td></tr>
<tr><td colspan="2">Meaning</td></tr>
<tr><td>Understandings</td><td>Essential Questions</td></tr>
<tr><td>● Programming enables robots to perform specific tasks and respond to their environment autonomously.
● Sensors enhance a robot's ability to interact with its surroundings, promoting adaptability.
● Debugging is a critical part of the programming process.</td><td>How do programming concepts enable a robot to perform specific tasks and adapt to its environment?
How do debugging and iteration enhance the functionality of robotic systems?</td></tr>
<tr><td colspan="3"></td></tr>
<tr><td>Other Goals</td><td colspan="2">Acquisition of Knowledge & Skill</td></tr>
<tr><td rowspan="2"></td><td>Knowledge</td><td>Skills</td></tr>
<tr><td>● Understand programming concepts such as loops, conditionals, and variables.
● Recognize the functionality of sensors like ultrasonic, touch, and line followers.
● Explain how feedback loops improve robotic decision-making.</td><td>● Write programs that integrate loops, conditionals, and sensors to complete tasks.
● Use sensors to guide robot navigation or interaction with objects.
● Debug and refine programs to ensure successful robot performance.</td></tr>
</table>

<table>
<tr><th colspan="2">Unit 4: Integrated Challenge and Problem-Solving</th></tr>
<tr><td colspan="2">Students apply their mechanical design and programming skills to team-based challenges, designing and building robots to complete complex tasks. This unit emphasizes collaboration, creativity, and iterative improvement, simulating real-world engineering teamwork.</td></tr>
<tr><td colspan="2">Learning Goals</td></tr>
<tr><td>Established Goals</td><td>Transfer</td></tr>
<tr><td>Standards</td><td>Long Term Transfer Goals</td></tr>
</table>

<table>
<tr><td rowspan="4">STEL 4A: Evaluate and apply troubleshooting strategies in engineering systems.
STEL 6B: Develop optimized solutions through iterative design and problem-solving.
STEL 9B: Collaborate effectively to solve technological problems.
NGSS Standards:
HS-ETS1-1: Analyze a major global challenge to define criteria and constraints.
HS-ETS1-3: Evaluate a solution to a complex problem considering trade-offs and constraints.
HS-ETS1-2: Design a solution to a complex real-world problem by breaking it into manageable components.</td><td colspan="2">Students will collaboratively design and optimize integrated robotic solutions, applying iterative problem-solving and teamwork skills to address complex, multifaceted challenges.</td></tr>
<tr><td colspan="2">Meaning</td></tr>
<tr><td>Understandings</td><td>Essential Questions</td></tr>
<tr><td>Real-world challenges require integrating mechanical design and programming to create efficient robotic systems.
Collaboration enhances the problem-solving process and improves outcomes.
Testing and refining designs optimize robotic performance under given constraints.</td><td>How can teamwork and collaboration enhance the process of designing and building robots? How do robots address complex challenges through integrated design and programming?</td></tr>
<tr><td>Other Goals</td><td colspan="2">Acquisition of Knowledge & Skill</td></tr>
<tr><td></td><td>Knowledge</td><td>Skills</td></tr>
<tr><td></td><td>Understand the requirements and constraints of complex robotic tasks.
Recognize strategies for effective teamwork and communication.
Identify ways to evaluate and refine integrated robotic systems.</td><td>Collaborate on the design and programming of a robot to complete a multifaceted task.
Test and refine integrated designs based on performance criteria.
Assess and improve teamwork dynamics through peer and self-evaluations.</td></tr>
</table>

Unit 5: Culminating Project	
In the final unit, students integrate all their learning into an open-ended robotics project. They design, build, and program a robot to solve a real-world problem or complete an advanced challenge. Students present their projects to peers and instructors, showcasing their skills, creativity, and engineering solutions.	
Learning Goals	
Established Goals	**Transfer**
Standards	**Long Term Transfer Goals**

<table>
<tr><td rowspan="4">STEL 5A: Apply design thinking to create innovative solutions to open-ended problems.
STEL 6C: Demonstrate iterative testing and refinement to optimize design.
STEL 10B: Communicate design processes and outcomes effectively through
HS-ETS1-2: Design a solution to a complex real-world problem, considering system constraints.
HS-ETS1-4: Use a model or simulation to analyze and refine a solution to a technological challenge.
HS-PS4-5: Communicate technical information or solutions in oral, graphical, or written forms.</td><td colspan="2">Students will synthesize their knowledge of robotics, engineering, and programming to develop innovative solutions to open-ended problems, demonstrating the ability to communicate and present their designs effectively to diverse audiences.</td></tr>
<tr><td colspan="2">Meaning</td></tr>
<tr><td>Understandings</td><td>Essential Questions</td></tr>
<tr><td>● Open-ended challenges promote creativity and innovation in robotics design.
● Effective communication and reflection are essential to presenting and refining solutions.
● Robotics solutions can be adapted and applied to address a wide range of real-world problems.</td><td>How can robots be designed to address real-world challenges or innovate solutions?
What role does creativity and innovation play in developing advanced robotic systems?
How does reflecting on the engineering process contribute to future problem-solving and growth?</td></tr>
<tr><td>Other Goals</td><td colspan="2">Acquisition of Knowledge & Skill</td></tr>
<tr><td rowspan="2"></td><td>Knowledge</td><td>Skills</td></tr>
<tr><td>● Understand the principles of open-ended problem-solving in robotics.
● Recognize the importance of clear communication and reflective feedback in engineering processes.
● Summarize key concepts in mechanical systems, programming, and collaborative design.</td><td>● Design and program a robot to address an open-ended task, such as navigating a maze or sorting objects.
● Present and defend robotic designs and problem-solving strategies to peers and instructors.
● Reflect on personal growth and learning throughout the robotics course.</td></tr>
</table>

Branford Public Schools Global Learning Competencies

GLCs were updated as part of the 2023 Strategic Coherence Plan. The revised GLCs are listed here for reference, though more work is needed before putting them into practice.


Communication and Active Listening
Collaboration
Adaptability and Interest in New Learning
Empathy and Kindness
Citizenship and Civic Responsibility
Questioning, Reasoning and Problem Solving
Branford Public Schools
Learning Today, Leading Tomorrow

BRANFORD HIGH SCHOOL
NEW COURSE PROPOSAL FORM

Course Title: Residential Construction

Credit: .5 credit

Credit Area(s): Career and Technical Education

Course Proposed by: Rob Kovi

- Administration
- Board of Education
- ~~Department~~
- Students (in collaboration with faculty)
- Other (specify):_____

New courses must embed indicators of deep learning:

- Feedback: Providing continuous skills development, recognizing progress at each stage, while incorporating mentoring, feedback, and support throughout the learning process.
- Content: Ensuring students progress from initial understanding to application of content by continuously reviewing and upgrading their knowledge and skills, using high-quality resources, and engaging in hands-on experiences.
- Context: Promoting intrinsic motivation and student engagement in the pursuit of learning by communicating high expectations within an environment of clear rules and procedures and nurturing relationships.
- Community: Cultivating a safe, supportive, and collaborative culture with colleagues, students, and families to optimize learning for educators and students.

Course Catalog Description:

This dynamic course equips students with the essential skills to design, plan, and construct residential structures, blending creativity with technical expertise. Through engaging hands-on projects and real-world applications, students will delve into every phase of construction, including site planning, blueprint reading, foundation work, framing, roofing, and finishing techniques. Emphasis is placed on safety, sustainability, building codes, and the collaborative roles of professionals in the construction industry. Students will also explore career opportunities and examine how cutting-edge technologies are transforming modern residential construction. Build your future with this immersive and practical experience.

Prerequisite(s):

Introductory Woodworking

COURSE/DEPARTMENT INFORMATION

How does this course fit into the course offerings? Establish a flow chart of courses and indicate where this course will fit in. *(Is it a stand alone, is it part of a sequence or is it replacing another course?)*

The course builds on the existing wood technologies curriculum, allowing students to advance into construction technologies. It serves as an extension of practical skills learned in wood technology, focusing specifically on residential construction.

How many electives does your department currently offer and what are they? There are 12 electives.

Wood Technology	**Power Technology**	**Engineering/ Design Technology**	**Drafting Technology**	**Graphic Technology**
Introductory Woodworking Advanced Woodworking	Introductory Power Technology Advanced Power Technology Automotive Mechanics Technology I/II	Hands-on Engineering Advanced Hands-on Engineering	Introductory/ Advanced Drafting Web Design and Computer Application	Introductory/ Advanced Web Design and Computer Applications, Video Broadcasting and Performance

Who is your target audience?

This course is primarily for students interested in or pursuing careers in construction, architecture, or engineering, this course will appeal to those seeking hands-on, career-oriented learning in the Career and Technical Education (CTE) pathway.

What are the pros and cons of this submission? Have these been thoroughly discussed by the department?

Pros: Expands career pathway options, addresses high-demand construction skills, provides hands-on learning experiences, and aligns with workforce needs in Connecticut. It can increase student engagement by offering real-world applications and fostering technical skills in construction.
Cons: Requires some specialized equipment and dedicated space for hands-on construction projects, which may limit enrollment capacity. Perkins grant can be used to help fund some of the specialized equipment.

Does this submission have the full support of the department? Describe any steps taken to gain or measure the level of support.

The proposal for the course has been discussed in department meetings, gathering feedback, and ensuring alignment with department goals for expanding CTE pathways. It fits within the skills of teachers in the department.

RATIONALE

How does this course contribute to the department's goals and align with the department's standards?

The course aligns with the department's goal of expanding CTE pathways and meeting STEL and NGSS standards in technology and engineering. It supports students' career readiness in construction and related fields.

What is the need this course addresses?

This course meets the demand for skilled workers in Connecticut's construction industry by equipping students with high-wage, high-skill abilities relevant to residential construction.

In what ways will deep learning occur throughout the course? *(See the definition of deep learning at the top of the document.)*

Feedback: Students will receive continuous mentoring and feedback on hands-on projects, which will help them refine their technical skills and construction knowledge.
Content: Students will progress from fundamental principles of construction to application, using professional resources, including blueprint analysis and practical construction tasks.
Context: By setting clear rules, expectations, and a collaborative environment, students will gain intrinsic motivation and ownership of their learning journey.
Community: Collaboration with classmates on projects and potential guest speakers from the industry will create a supportive, real-world learning environment.

How does this course support the Global Learning Competencies? You may refer to the existing or newly revised GLCs (see page 4).

Critical Thinking: Engaging students in problem-solving through project planning, blueprint reading, and hands-on construction.
Creativity and Innovation: Encouraging design thinking as students create blueprints and structural plans.
Collaboration: Requiring teamwork on projects that simulate real-world construction environments.
Communication: Teaching students to articulate design choices and collaborate effectively with peers and industry professionals.

BUDGET AND FACILITY CONSIDERATIONS

Staffing Requirements:

Will this create an additional staffing need within the department?

No additional staffing needs anticipated.

Budget Requirements:

Equipment, materials, textbooks? Please distinguish between a one time only and a yearly expense.

Perkins Grant-funded construction kits will cover material costs, though additional supplies may be needed over time.

Facility Requirements:

Existing classrooms will suffice for instructional activities; however, space should be organized to accommodate tools and materials safely.

Additional FTE required	No
Minimum number of students required to run the class	8
Anticipated/estimated enrollment for year one	10-15

Is there classroom availability within the department for this class? If not, how will this class be accommodated within the school?

Yes

Are there physical needs or limitations for this course? (water, power, room size, etc.)

No

STAGE ONE LEARNING PLAN

<table>
<tr><th colspan="3">Unit 1: Introduction to Residential Construction</th></tr>
<tr><td colspan="3">This unit examines the critical elements of residential construction, emphasizing the importance of building codes, safety standards, and the collaborative roles of architects, contractors, and engineers in ensuring project success. Students will explore how adherence to these standards safeguards quality and safety, while also investigating sustainable practices that reduce environmental impact. Through case studies and hands-on projects, students will analyze the interplay between regulations, professional responsibilities, and environmental considerations, gaining insight into how thoughtful construction practices contribute to a safer and more sustainable built environment.</td></tr>
<tr><th colspan="3">Learning Goals</th></tr>
<tr><th>Established Goals</th><th colspan="2">Transfer</th></tr>
<tr><th>Standards</th><th colspan="2">Long Term Transfer Goals</th></tr>
<tr><td rowspan="3">STEL 1: Nature and characteristics of technology and engineering.
STEL 7: Design in technology and engineering education.
STEL 10: Safety standards and practices in technology and engineering.
HS-ETS1-1: Analyze a major global challenge to specify qualitative and quantitative criteria and constraints for solutions.
HS-ESS3-3: Apply scientific principles to design a method for monitoring and minimizing human impact on the environment.</td><td colspan="2">Students will be able to apply building codes, safety standards, and professional roles to ensure the safety, quality, and sustainability of construction projects in real-world settings.</td></tr>
<tr><td colspan="2">Meaning</td></tr>
<tr><td>Understandings</td><td>Essential Questions</td></tr>
<tr><td>● Understand the importance of building codes and safety standards in construction.
● Learn the roles of professionals such as architects, contractors, and engineers in the construction process.
● Recognize the environmental considerations and</td><td>How do building codes, safety standards, and professional roles ensure the safety, quality, and sustainability of a construction project?
In what ways can construction practices be designed to minimize environmental impact and promote sustainability?</td></tr>
</table>

	sustainable practices in residential construction.	
Other Goals	**Acquisition of Knowledge & Skill**	
	Knowledge	**Skills**
	● Understand the importance of building codes and safety standards in construction. ● Learn the roles of professionals such as architects, contractors, and engineers in the construction process. ● Recognize the environmental considerations and sustainable practices in residential construction.	● Interpret and apply building codes and safety standards. ● Identify the roles and responsibilities of construction professionals. ● Analyze environmental considerations in construction projects.

Unit 2: Blueprint Reading and Design		
In this unit, students will explore the foundational skills required to understand and create blueprints, focusing on symbols, scales, and annotations as critical components. They will learn and apply key design principles such as balance, proportion, and functionality to develop construction plans that are both practical and visually appealing. Additionally, students will gain hands-on experience with design software, leveraging technology to create, modify, and refine blueprints. Through these activities, students will develop a deeper appreciation for the role of clear communication and precision in the successful execution of construction projects.		
Learning Goals		
Established Goals	**Transfer**	
Standards	**Long Term Transfer Goals**	
STEL 3: Integration of knowledge, technology, and engineering. STEL 4: Engineering design processes. STEL 8: Applying aesthetic and functional design principles. HS-ETS1-2: Design a solution to a complex real-world problem by breaking it down into smaller, manageable problems that can be solved through engineering. HS-ETS1-4: Use a computer simulation to model the impact of	Students will be able to design and interpret blueprints that balance technical requirements with aesthetic considerations, effectively communicating construction plans for real-world applications.	
	Meaning	
	Understandings	**Essential Questions**
	● Understand the components of blueprints, including symbols, scales, and annotations. ● Learn design principles such as balance, proportion, and	How do blueprint interpretation and design principles contribute to the creation of functional and aesthetically pleasing structures? How does the use of design software improve the

proposed solutions to a complex real-world problem.	functionality in creating construction plans. ● Gain knowledge of design software and tools used to create and modify blueprints.	communication and execution of construction projects?
Other Goals	**Acquisition of Knowledge & Skill**	
	Knowledge	**Skills**
	● Understand the components of blueprints, including symbols, scales, and annotations. ● Learn design principles such as balance, proportion, and functionality in creating construction plans. ● Gain knowledge of design software and tools used to create and modify blueprints.	● Read and interpret blueprint symbols and scales. ● Create detailed designs using design principles and software tools. ● Balance functionality, client needs, and aesthetics in design projects.

Unit 3: Site Planning and Preparation		
This unit focuses on the critical steps and considerations involved in selecting and preparing a construction site. Students will explore zoning laws, environmental impact assessments, and their significance in responsible site planning. They will learn about the processes of site selection, evaluation, and preparation, including strategies for erosion control and maintaining safety during construction. Through practical applications and scenario-based learning, students will examine how effective project management and adherence to regulations contribute to stable, efficient, and sustainable construction practices.		
Learning Goals		
Established Goals	**Transfer**	
Standards	**Long Term Transfer Goals**	
STEL 5: Impacts of technology and engineering on the environment. STEL 6: Relationships between technology, engineering, and society. STEL 11: Project and process management. HS-ESS3-4: Evaluate or refine a technological solution that reduces impacts of human activities on natural systems. HS-ETS1-3: Evaluate a solution to a real-world problem based on prioritized criteria and trade-offs.	Students will be able to evaluate and prepare construction sites by considering environmental, legal, and logistical factors to ensure long-term stability, safety, and project success.	
	Meaning	
	Understandings	**Essential Questions**
	● Understand zoning laws, environmental impact assessments, and their role in site planning. ● Learn the process of site selection, evaluation, and preparation for construction. ● Gain knowledge of erosion control and managing	What factors must be considered when selecting and preparing a construction site to ensure stability, safety, and long-term success? How can project management strategies and zoning regulations impact the efficiency and responsibility of a construction project?

	construction site safety during preparation.	
Other Goals	**Acquisition of Knowledge & Skill**	
	Knowledge	**Skills**
	● Understand the characteristics and applications of different foundation types and how they support structural stability. ● Learn various framing techniques and their roles in constructing durable and stable structures. ● Identify and analyze key structural components such as beams, joists, studs, and trusses, and their contributions to overall building integrity.	● Evaluate site selection based on zoning laws and environmental impact. ● Prepare construction sites, including erosion control and resource management. ● Implement project management strategies for efficient site operations.

Unit 4: Foundation and Framing		
This unit explores the critical role of foundations, framing methods, and structural elements in building design and construction. Students will investigate different foundation types, including slabs, crawl spaces, and basements, and their suitability for various conditions. They will learn about framing techniques such as balloon and platform framing, examining how these methods contribute to structural integrity and longevity. Additionally, the unit focuses on the functions of beams, studs, and trusses in maintaining stability and safety throughout a building's lifecycle. Through analysis and application, students will develop a comprehensive understanding of how foundational and structural choices impact a building’s durability and safety.		
Learning Goals		
Established Goals	**Transfer**	
Standards	**Long Term Transfer Goals**	
STEL 2: Core concepts of technology and engineering. STEL 4: Application of engineering design to structural elements. STEL 7: Materials and tools in construction. HS-PS2-1: Analyze data to support the claim that Newton’s second law of motion describes the mathematical relationship among the net force on an object, its mass, and its acceleration.	Students will be able to select and implement appropriate foundation and framing techniques, ensuring structural integrity and safety for various building types and environments.	
	Meaning	
	Understandings	**Essential Questions**
	● Understand different foundation types (slab, crawl space, basement) and their specific uses. ● Learn various framing methods (balloon framing,	How do the choice of foundation and framing techniques affect the structural integrity and longevity of a building? What role do structural elements play in maintaining the stability

HS-ETS1-1: Analyze a major global challenge to specify qualitative and quantitative criteria and constraints for solutions.	platform framing) and their structural functions. ● Recognize the role of structural elements like beams, studs, and trusses in ensuring building stability.	and safety of a building throughout its life?
Other Goals	**Acquisition of Knowledge & Skill**	
	Knowledge	**Skills**
	● Understand different foundation types (slab, crawl space, basement) and their specific uses. ● Learn various framing methods (balloon framing, platform framing) and their structural functions. ● Recognize the role of structural elements like beams, studs, and trusses in ensuring building stability.	● Identify and construct various foundation types. ● Apply framing techniques to ensure structural stability. ● Understand the roles of different structural elements in construction.

Unit 5: Roofing and Finishing		
This unit examines the critical steps of roofing and finishing in construction, focusing on their impact on a building's durability, efficiency, and visual appeal. Students will explore various roofing materials and installation techniques, analyzing their advantages and limitations. They will also learn about exterior finishing processes, such as siding and weatherproofing, as well as interior techniques like drywall, painting, and trim work. Through hands-on activities and design projects, students will understand how these elements contribute to the overall performance, functionality, and aesthetics of a completed building.		
Learning Goals		
Established Goals	**Transfer**	
Standards	**Long Term Transfer Goals**	
STEL 2: Understanding and applying construction materials and methods. STEL 8: Evaluating energy efficiency and aesthetic design. STEL 10: Safety and precision in finishing techniques. HS-ESS3-2: Evaluate competing design solutions for developing, managing, and utilizing energy and natural resources based on cost-benefit ratios.	Students will be able to choose and apply roofing and finishing techniques that enhance a building's durability, energy efficiency, and visual appeal while meeting construction requirements.	
	Meaning	
	Understandings	**Essential Questions**
	● Learn about different roofing materials and installation techniques, including their pros and cons.	How do roofing materials, installation techniques, and finishing methods impact a building's durability, efficiency, and aesthetics?

HS-ETS1-3: Evaluate a solution to a real-world problem based on prioritized criteria and trade-offs.	● Understand the processes involved in exterior finishing, such as siding and weatherproofing. ● Gain knowledge of interior finishing techniques, including drywall, painting, and trim work.	How do final construction touches, such as siding and trim, influence the overall performance and design of a building?
Other Goals	**Acquisition of Knowledge & Skill**	
	Knowledge	**Skills**
	● Key properties and applications of various roofing materials and installation techniques. ● Methods for interior and exterior finishing, emphasizing functionality, aesthetics, and energy efficiency. ● Integration of sustainable practices and material selection in construction finishing.	● Select and install appropriate roofing materials and methods. ● Execute exterior and interior finishing techniques, including drywall, siding, and windows. ● Enhance energy efficiency and aesthetic value through finishing choices.

Unit 6: Safety in Construction	
This unit focuses on the importance of safety in construction environments, emphasizing adherence to OSHA guidelines and best practices. Students will explore the proper use of Personal Protective Equipment (PPE) and the role it plays in worker safety. They will also identify common construction hazards and learn strategies to prevent or mitigate risks through safe practices. By engaging in real-world scenarios and hands-on activities, students will develop the knowledge and skills needed to create and maintain safe worksites for both workers and the surrounding community.	
Learning Goals	
Established Goals	**Transfer**
Standards	**Long Term Transfer Goals**
OSHA standards and STEL 10 on safety standards. STEL 10: Implementation of safety standards and protocols. STEL 12: Risk analysis and management in engineering projects.	Students will be able to apply OSHA guidelines and safety protocols to manage risks and ensure a safe working environment on construction sites.
	Meaning
	Understandings / **Essential Questions**

<table>
<tr><td>OSHA Standards: Compliance with workplace safety and hazard mitigation practices.
HS-ETS1-4: Use a computer simulation to model the impact of proposed solutions to a complex real-world problem.
HS-PS3-3: Design, build, and refine a device that works within given constraints to convert one form of energy into another.</td><td>● Understand OSHA guidelines and safety standards for construction sites.
● Learn proper usage of Personal Protective Equipment (PPE) to ensure worker safety.
● Recognize common construction hazards and how to prevent or mitigate them through safe practices.</td><td>How do safety protocols and OSHA guidelines ensure a safe and effective construction environment for workers and the community?
What are the key construction hazards, and how can they be prevented to ensure a safe worksite?</td></tr>
<tr><th>Other Goals</th><th colspan="2">Acquisition of Knowledge & Skill</th></tr>
<tr><td rowspan="2"></td><th>Knowledge</th><th>Skills</th></tr>
<tr><td>● Core OSHA guidelines, PPE usage, and emergency response procedures.
● Strategies for identifying and mitigating common construction hazards.
● Best practices for maintaining tool and equipment safety during projects.</td><td>● Demonstrate proficiency in OSHA guidelines and PPE usage.
● Identify and mitigate construction hazards effectively.
● Respond to emergencies using established safety protocols.</td></tr>
</table>

Branford Public Schools Global Learning Competencies

GLCs were updated as part of the 2023 Strategic Coherence Plan. The revised GLCs are listed here for reference, though more work is needed before putting them into practice.


Communication and Active Listening
Collaboration
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Empathy and Kindness
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Branford Public Schools
Learning Today, Leading Tomorrow

BRANFORD HIGH SCHOOL
NEW COURSE PROPOSAL FORM

Course Title: ECE Kinesiology: Exercise and Wellness For Everyone (UConn)

Credit: .5 credit

Credit Area(s): Health and Physical Education

Course Proposed by: Jennifer Stackpole and Brian Zaklukiewicz

- ~~Administration~~
- Board of Education
- ~~Department~~
- Students (in collaboration with faculty)
- Other (specify):_____

New courses must embed indicators of deep learning:

- Feedback: Providing continuous skills development, recognizing progress at each stage, while incorporating mentoring, feedback, and support throughout the learning process.
- Content: Ensuring students progress from initial understanding to application of content by continuously reviewing and upgrading their knowledge and skills, using high-quality resources, and engaging in hands-on experiences.
- Context: Promoting intrinsic motivation and student engagement in the pursuit of learning by communicating high expectations within an environment of clear rules and procedures and nurturing relationships.
- Community: Cultivating a safe, supportive, and collaborative culture with colleagues, students, and families to optimize learning for educators and students.

Course Catalog Description:

This course provides an overview of the five pillars of health (exercise, nutrition, sleep, stress and relationships) as well as the role of exercise in health promotion and disease prevention across the lifespan; impacts of exercise in leisure time, culture, community, careers and the workplace.

Physical activity including aerobic exercise, yoga, and fitness will be included. Students will create, execute and monitor a personal wellness plan that includes exploring group and personal exercises, how those choices impact their emotional, psychological and social well-being. Students will pinpoint approaches for stress reduction and personal wellness.

Students who successfully complete this course will be awarded UCONN credit.

Students may earn three college credits through the University of Connecticut's Early College Experience (ECE) program.

Prerequisite(s):

BHS Health 9 & PE 9 AND BHS Health 10 & PE 10

COURSE/DEPARTMENT INFORMATION

How does this course fit into the course offerings? Establish a flow chart of courses and indicate where this course will fit in. *(Is it a stand alone, is it part of a sequence or is it replacing another course?)*

	Freshmen	**Sophomore**	**Junior**	**Senior**
Health:	Health 9	Health 10		
P.E.:	P. E. 9	P.E. 10		
H/PE Combined: Select 1 per year			ECE: KINS 1100	ECE: KINS 1100
			H/PE 11/12	H/PE 11/12
			Lifetime Wellness	Lifetime Wellness
			Personal Fitness	Personal Fitness
			Unified P.E.	Unified P.E.

How many electives does your department currently offer and what are they?

BHS electives that fulfill graduation requirements for Health and Physical Education are offered to Juniors and Seniors only.

- Lifetime Fitness and Wellness
- Personal Fitness and Wellness
- Unified Physical Education and Health
- 11/12 Physical Education and Health

Who is your target audience?

The target audience for this class is 11th and 12th grade students at Branford High School who are interested in pursuing a deeper understanding of overall wellness and/or interested in pursuing health-related career opportunities.

What are the pros and cons of this submission? Have these been thoroughly discussed by the department?

An ECE course in Health and Physical Education is a great addition to our program. Students will have the time, knowledge and tools to apply previous health and wellness knowledge to their own lives. We have discussed this thoroughly for many years and are excited for this new offering from UCONN ECE. This course can also help students fulfill BHS graduation requirements for Health and Physical Education.

Does this submission have the full support of the department? Describe any steps taken to gain or measure the level of support.

Yes. This submission does have the full support of the department members, department leaders, school

counseling and administration. This course is another building block to our implementation of additional Career Pathways at BHS.
We began discussing this particular course at the end of the 2023-2024 school year and the idea of an ECE option for many years during department and leadership team meetings.

RATIONALE

How does this course contribute to the department's goals and align with the department's standards?

The Kinesiology: Exercise and Wellness for Everyone course aligns effectively with Branford High School Physical Education Department's goals by fostering a culture of health, wellness, academic achievement, and career preparation.

1. Health and Wellness Prioritization

- The course emphasizes physical activity, wellness, and a holistic approach to health, which resonates with Branford High School's Physical Education Department's commitment to promoting lifelong healthy habits among students.
- By encouraging inclusive and sustainable wellness practices, it supports the school's focus on developing well-rounded individuals prepared to maintain their health beyond high school.

2. Accessible and Inclusive Learning

- "Exercise and Wellness for Everyone" suggests an inclusive curriculum designed to engage students of all fitness levels and backgrounds, reflecting the school's goal of meeting the diverse needs of its student body.

3. Career Pathways in Health and Fitness

- The course introduces students to potential careers in health sciences, fitness, and wellness coaching, aligning with Branford's goal of helping students explore career opportunities and preparing them for success in future professions.

4. Early College Credit Opportunity

- Students earn college credits, enhancing their academic profile while easing their transition to higher education. This aligns with Branford's commitment to academic excellence and post-secondary readiness.

5. Promoting Personal Growth and Leadership

- The course encourages students to take responsibility for their own health and wellness, fostering personal growth, self-discipline, and leadership—qualities Branford High School seeks to develop in its students.

What is the need this course addresses?

This course will help to satisfy Physical Education and Health graduation requirements. This course can offer additional exposure to health and wellness as well as college credit for those students that are interested in pursuing careers and/or education in Allied Health, Fitness and Wellness.

In what ways will deep learning occur throughout the course? *(See the definition of deep learning at the top of the document.)*

1. **Feedback:** by having students complete wellness assessments, behavior change projects, and track their own progress throughout the semester. Students reflect on their growth and improvement, and they are provided with feedback from the instructor. This continuous cycle of self-assessment and instructor input helps students recognize their development over time. By offering personalized instructor guidance throughout the semester. Students receive feedback on their wellness assessments, behavior change projects, and reflections. The instructor also supports students in setting and revising personal goals, ensuring they have the tools and encouragement needed to succeed.
2. **Content:** to facilitate learning by offering materials for wellness assessments, tools for behavior change, and structured activities that guide students in tracking progress. These resources support students in applying practical wellness strategies and achieving personal goals.
3. **Context:** by having students actively engage in wellness assessments, plan and implement behavior change projects, and apply practical wellness strategies. Students are required to track their own progress, which involves real-world application of the skills they are learning. These activities provide practical experience and allow students to "learn by doing."
4. **Community:** by emphasizing personal growth and wellness. The course encourages students to set and achieve individualized goals, with the instructor offering continuous support and feedback. This creates an environment where students feel empowered to succeed, knowing that their efforts are recognized and valued, leading to a positive and motivating experience throughout the course.

How does this course support the Global Learning Competencies? You may refer to the existing or newly revised GLCs (see page 4).

The Global Learning Competencies this course supports are:

1. Questioning, Reasoning, and Problem Solving: This course fosters critical thinking by encouraging students to ask questions about how and why the body responds to exercise, exploring physiological and biomechanical principles, and solving problems related to movement, fitness, and health by analyzing case studies and/or conducting fitness assessment.
2. Adaptability and Interest In New Learning: This course covers evolving research and technologies in exercise science, which exposes students to new techniques, tools, and health practices. This supports adaptability as students must stay open to new ways of thinking and learning, whether it's adjusting to recent findings in sports medicine or emerging fitness trends and therapies.
3. Communication and Active Listening: Through group activities, labs, and discussions, students

practice conveying scientific concepts clearly and listening actively to peers and instructors. Whether it's presenting findings or engaging in collaborative projects, students refine their ability to communicate technical information effectively and respond thoughtfully.

4. Empathy and Kindness: This course emphasizes an inclusive approach to fitness and health, and encourages students to consider and respect diverse physical abilities and health challenges. Moreover, discussions on social and environmental factors, stress management and effective communication, community wellness and public health, and the impact of socio-economic factors on health foster empathy and a compassionate outlook toward people of different backgrounds and abilities.
5. Collaboration: In this course, students might assess movement, develop fitness plans, peer teach, or solve case-based scenarios together. This collaborative experience helps students develop the skills needed to work effectively in teams, share responsibility, and build consensus in problem-solving.
6. Citizenship and Civic Responsibility: This course highlights the role of exercise science in public health and community well-being. By understanding the impact of physical health on society, students are encouraged to consider how they can contribute to community health initiatives, promote wellness programs, and support fitness accessibility for all. This fosters a sense of civic responsibility and a commitment to contributing positively to society.

BUDGET AND FACILITY CONSIDERATIONS

Staffing Requirements:

Will this create an additional staffing need within the department?

No. Jenn Stackpole and Brian Zaklukiewicz plan to teach this ECE course. Both are certified K-12 Health and Physical Education Teachers in CT, and both possess Masters degrees so there is no need for additional staffing within the department at this moment.

Budget Requirements:

Equipment, materials, textbooks? Please distinguish between a one time only and a yearly expense.

Health Now, An Integrative Approach to Personal Health, Version 3.2, Flat World Publishing, 2025.

I believe the only equipment, materials, and textbooks we'll need are textbooks. ECE courses require us to use the textbook that they've selected. We'll probably need between twenty and thirty of these textbooks, depending on class sizes.

Facility Requirements:

Additional FTE required	No
Minimum number of students required to run the class	10
Anticipated/estimated enrollment for year one	10-25 per class

Is there classroom availability within the department for this class? If not, how will this class be accommodated within the school?

Yes, there is classroom availability within the department for this class.

Are there physical needs or limitations for this course? (water, power, room size, etc.)

No

STAGE ONE LEARNING PLAN
***Each unit needs to have a Stage One Plan**

<table>
<tr><th colspan="3">Unit Focus: The Five Pillars of Health in our Society</th></tr>
<tr><td colspan="3">Module 1: Five Pillars in Society
This module introduces the five pillars of health (exercise, nutrition, sleep, stress, and relationships), analyzing their individual and collective impacts on society’s health, wellness trends, and public health concerns.</td></tr>
<tr><th colspan="3">Learning Goals</th></tr>
<tr><th>Established Goals</th><th colspan="2">Transfer</th></tr>
<tr><th>Standards</th><th colspan="2">Long Term Transfer Goals</th></tr>
<tr><td rowspan="3">● AI 3.1.12 Evaluate the validity and reliability of health information, products, and services.
● AI 3.2.12 Determine the accessibility of valid and reliable health products and services
● DM 5.1.12 Examine barriers to healthy decision making.
● DM 5.2.12 Analyze how family, culture, media, peers, and personal beliefs affect a health-related decision.
● DM 5.4.12 Predict potential shortand long-term consequences of alternatives to health-related decisions.
● GS 6.1.12 Assess personal health practices and behaviors.
● GS 6.2.12 Set a realistic personal health goal.</td><td colspan="2">Learners will be able to apply their understanding of the foundational principles of health, evaluate personal and public health risks, and actively contribute to initiatives that promote individual and community wellness. They will be equipped to make informed decisions, advocate for healthier lifestyles, and support public health efforts, ensuring sustained improvement in both personal and societal health outcomes.</td></tr>
<tr><th colspan="2">Meaning</th></tr>
<tr><th>Understandings</th><th>Essential Questions</th></tr>
<tr><td>- Understanding of the 5 Pillars of Health
- Role of medical care, genetics, personal behaviors, and environment in health and wellness
- Objectives of initiatives and organizations such as, ACSM, “Exercise is Medicine” and Healthy People</td><td>● What do the five pillars of health reveal about the interconnectedness of physical, mental, and social well-being, and how do they guide a balanced approach to wellness?
● How do medical care, genetics, personal behaviors, and environmental factors interact to influence health and wellness, and what does this reveal about the complexity of maintaining a healthy lifestyle?</td></tr>
</table>

<table>
<tr><td>

- GS 6.3.12 Assess the barriers to achieving a personal health goal.
- GS 6.4.12 Develop a plan to attain a personal health goal.

</td><td></td><td>

- How do initiatives like ACSM's "Exercise is Medicine" and Healthy People reflect societal priorities and strategies for improving health and wellness in the United States, and what lessons can we apply from their objectives?

</td></tr>
<tr><th>Other Goals</th><th colspan="2">Acquisition of Knowledge & Skill</th></tr>
<tr><td rowspan="2"></td><th>Knowledge</th><th>Skills</th></tr>
<tr><td>

- Nutrition
- Exercise
- Sleep
- Mental Health
- Stress management
- medical care
- genetics
- personal behaviors
- environment
- ACSM
- "Exercise is Medicine"
- Healthy People

</td><td>

- **Personal Assessment:** Evaluate and assess personal health practices related to nutrition, exercise, sleep, mental health, and stress management.
- **Planning:** Creating a balanced lifestyle plan that integrates all five pillars to enhance overall well-being.
- **Implementation:**Applying strategies and habits that support each pillar in daily life.
- **Adaptation:** Adjusting health practices based on changing personal needs or circumstances.
- **Analysis:** Understanding and interpreting how medical care, genetics, personal behaviors, and environmental factors contribute to health outcomes.
- **Risk Assessment:** Identifying personal risk factors related to genetics, behaviors, and environmental influences.
- **Behavior Change**: Developing and implementing strategies to modify personal behaviors for better health.
- **Advocacy**:Promoting awareness and action to

</td></tr>
</table>

		address environmental and social factors affecting health. - **Evaluation**: Assessing how the objectives of ACSM, "Exercise is Medicine," and Healthy People align with individual and public health goals. - **Application**: Utilizing guidelines and recommendations from these organizations to develop personal and community health improvement plans. - **Engagement**: Participating in or supporting initiatives and programs that promote physical activity and preventive care. - **Communication**: Effectively conveying the importance of physical activity and preventive health measures to individuals and groups.

STAGE ONE LEARNING PLAN
***Each unit needs to have a Stage One Plan**

<table>
<tr><th colspan="3">Unit Focus</th></tr>
<tr><td colspan="3">Module 2: Stress, Sleep & Relationships
Focuses on the physiological and psychological impacts of stress, the importance of adequate sleep for cognitive and physical health, and how relationships contribute to emotional well-being, using evidence-based approaches to manage these factors.</td></tr>
<tr><th colspan="3">Learning Goals</th></tr>
<tr><th>Established Goals</th><th colspan="2">Transfer</th></tr>
<tr><th>Standards</th><th colspan="2">Long Term Transfer Goals</th></tr>
<tr><td rowspan="3">● HR 1.1.12 Describe personal characteristics that make people unique and the benefits of living in a diverse society.
● HR 1.6.12 Evaluate effective strategies for</td><td colspan="2">Learners will be able to recognize and manage the interconnected factors of stress, sleep, and social wellness that influence mental and physical health. They will apply this understanding to assess their own health patterns, adopt healthier behaviors, and contribute to improved overall well-being for themselves and their communities.</td></tr>
<tr><td colspan="2">Meaning</td></tr>
<tr><td>Understandings</td><td>Essential Questions</td></tr>
</table>

handling challenges in relationships (e.g., family members, peers, and significant others). ● MEH 1.4.12 Examine the causes, symptoms, and effects of depression, stress, and anxiety, including physical and psychological response. ● MEH 1.5.12 Examine strategies for mitigating the effects of chronic stress and trauma on mental health and learning. ● MEH 1.7.12 Summarize personal stressors at home, in school, and with friends. ● MEH 1.8.12 Evaluate effective strategies for dealing with stress (e.g., avoidance, active problem solving, emotion focused [reframing problem], self-care). ●	- Prevalence and effects of stress overload - Physiological effects of stress - Unique stress patterns and behaviors - Impact/Role of lifestyle and thought habits - Risk factors for mental health issues - Prevalence of sleep disorders and the relationship with poor health - Impact of sleep deprivation on physical and mental health - Analyzing sleeping habits - Determinants of social health and their effect on exercise - Impact of social wellness and overall health - Analyzing social wellness to promote improved wellness.	● What are the causes and consequences of stress overload on individuals and communities, and how do acute and chronic stress affect mental and physical health? ● How do personal patterns, behaviors, and habits—including those related to stress, sleep, and social wellness—shape overall well-being and psychological function? ● How can identifying risk factors for mental ill health and analyzing personal habits (such as sleep and social interactions) lead to effective strategies for improved health and wellness? ● In what ways do social determinants and social wellness influence exercise adherence, participation in activities, and overall health outcomes?
Other Goals	**Acquisition of Knowledge & Skill**	
	Knowledge	**Skills**
	- Stress overload - Acute Stress - Chronic Stress - Personal Stress Patterns - Lifestyle Choices and Cognitive Patterns - Risk Factors for Mental Health - Prevalence of Disordered Sleep - Sleep Deprivation - Analyzing/Optimizing Sleep Habits - Social Health Determinants - Social Wellness	- Managing Stress Overload - Understanding Stress Effects - Assessing Personal Stress Patterns - Evaluating Lifestyle and Thought Patterns - Risk Factor Identification - Sleep Health Assessment - Improving Sleep Quality - Social Health Evaluation - Enhancing Social Wellness - Promoting Overall Wellness Through Social Analysis

STAGE ONE LEARNING PLAN
***Each unit needs to have a Stage One Plan**

Unit Focus

Module 3: Nutrition

Covers principles of balanced nutrition, the relationship between diet and chronic diseases (e.g., obesity, diabetes), and strategies for improving personal and community dietary practices.

<table>
<tr><th colspan="3">Learning Goals</th></tr>
<tr><th colspan="2">Established Goals</th><th>Transfer</th></tr>
<tr><th colspan="2">Standards</th><th>Long Term Transfer Goals</th></tr>
<tr><td colspan="2" rowspan="3">● HEPA 1.1.12 Describe the recommendations of the U.S. Dietary Guidelines for Americans and explain how they are useful in planning a healthy diet.
● HEPA 1.2.12 Describe the relationship between nutrition, physical activity, and overall health
● HEPA 1.5.12 Define and describe the benefits of a holistic diet (increasing the amount of whole foods that one eats and decreasing the amount of processed foods).
● HEPA 1.6.12 Distinguish food sources that provide key nutrients.
● HEPA 1.10.12 Summarize how to make healthy food selections when choices are available
● HEPA 1.12.12 Explore factors that influence food choices (e.g., food availability, portion sizes, cost, taste vs. nutrition, celebrations, etc.).</td><td>Learners will be able to understand and address the impact of nutrition on health by recognizing the prevalence and consequences of poor nutrition and obesity, identifying barriers to healthy eating, and applying knowledge of nutritional needs to foster personal health, fitness, and sports performance.</td></tr>
<tr><td colspan="2">Meaning</td></tr>
<tr><td>Understandings</td><td>Essential Questions</td></tr>
<tr><td>- Prevalence of Poor Nutrition and Its Relation to Overweight and Obesity
- Food Patterns that Promote Health and Barriers to Access
- Health Consequences of Being Overweight and Obese
- Analyzing Nutritional Needs for a Healthy Diet
- Nutritional Needs for Improving Fitness and Sports Performance</td><td>● How does the prevalence of poor nutrition in the United States contribute to overweight and obesity, and what barriers prevent access to healthier food patterns?
● What food patterns and nutritional choices promote overall health, and how can understanding individual nutritional needs support personal wellness and fitness goals?
● What are the physical and societal consequences of overweight and obesity, and how can informed nutritional strategies improve health outcomes and sports performance?</td></tr>
<tr><th colspan="2">Other Goals</th><th colspan="2">Acquisition of Knowledge & Skill</th></tr>
<tr><td colspan="2" rowspan="2"></td><td>Knowledge</td><td>Skills</td></tr>
<tr><td>- High-calorie foods
- Processed snacks
- Calorie Intake
- Nutrient Imbalance
- Health Food Patterns
- Healthy Fats
- Food Deserts
- Economic Constraints
- Nutritional Education</td><td>- Assessing Nutritional Impact
- Identifying Healthy Food Patterns
- Addressing Barriers to Healthy Eating
- Understanding Health Consequences</td></tr>
</table>

	- Cultural Preferences - Chronic Disease - Type II Diabetes - Cardiovascular Disease - Chronic Disease - Cancer - Sleep Apnea - Mobility Issues - Caloric Requirements - Macro/Micronutrients - Dietary Choices - Carbohydrates - Proteins - Fats - Vitamins - Minerals - Energy - Meal Timing - Hydration	- Evaluating Nutritional Needs - Personalizing Dietary Choices - Optimizing Nutrition for Fitness - Strategizing Meal Timing - Ensuring Adequate Hydration

STAGE ONE LEARNING PLAN
***Each unit needs to have a Stage One Plan**

<table>
<tr><th colspan="3">Unit Focus</th></tr>
<tr><td colspan="3">Module 4: Exercise as a Pillar of Health

Emphasizes physical activity guidelines, the science behind exercise's role in disease prevention, and practical ways to incorporate movement into daily routines to enhance longevity and quality of life.</td></tr>
<tr><th colspan="3">Learning Goals</th></tr>
<tr><th>Established Goals</th><th colspan="2">Transfer</th></tr>
<tr><th>Standards</th><th colspan="2">Long Term Transfer Goals</th></tr>
<tr><td rowspan="3">● HEPA 1.8.12 Summarize the importance of healthy eating and physical activity in maintaining health.
● HEPA 1.9.12 Summarize the physical, mental, social, and academic benefits of healthful eating habits and physical activity.
● HEPA 1.14.12 Identify healthy and risky approaches to eating and exercise.</td><td colspan="2">Learners will be able to apply their understanding of physical activity, exercise, and fitness to create and implement personalized exercise plans that align with health guidelines, reduce disease risk, and enhance overall well-being. They will also appreciate how careers in exercise science contribute to improving public health and understand global trends and risk factors related to chronic diseases such as diabetes, cardiovascular disease, and cancer.</td></tr>
<tr><th colspan="2">Meaning</th></tr>
<tr><th>Understandings</th><th>Essential Questions</th></tr>
<tr><td>- Definitions/understanding the differences between Physical Activity, Exercise, and Physical Fitness.
- Health Benefits of Regular Physical Activity and Risks of Inactivity.</td><td>● What are the distinctions between physical activity, exercise, and physical fitness, and how do they contribute to preventing and managing chronic diseases such as type 2 diabetes, cardiovascular disease, and cancer?</td></tr>
</table>

	- Creating an Exercise Plan based on Fitness and Disease Risk - Careers in Exercise Science and Their Impact - Incidence, Prevalence, and Trends of Diabetes, Cardiovascular Disease, and Cancer - Risk Factors for Type 2 Diabetes, Cardiovascular Disease and Cancer - Role of Exercise in Disease Prevention and Treatment	● How do physical activity guidelines and the health benefits of regular exercise compare to the risks of inactivity, and what role does exercise play in both the prevention and treatment of chronic diseases? ● How can analyzing personal fitness levels, health risks, and lifestyle choices help create effective exercise plans that align with recommended guidelines to improve health and reduce disease risk? ● What societal trends and risk factors contribute to the prevalence of chronic diseases, and how do careers in exercise science help individuals achieve health, fitness, and performance goals?
Other Goals	**Acquisition of Knowledge & Skill**	
	Knowledge	**Skills**
	- Energy Expenditure - Cardiovascular Endurance - Muscular Strength - Flexibility - Body Composition - Moderate/Vigorous Intensity - Aerobic activity - Chronic Disease Reduction - Obesity - Cardiovascular Disease - Type 2 Diabetes - Cancers - Health Risks - Physical Activity Guidelines - Exercise Plan - Disease Prevention - Fitness Trainers and Careers in Exercise Science - Trends - Public Health - Lifestyle Choices - Genetic Predisposition	- Define and Use Key Terms - Conceptualization - understanding and differentiating concepts - Ability to Explain and Apply Physical Activity Recommendations - Clearly Communicate Activity Guidelines - Identify and explain benefits of physical activity and risks of inactivity - Assess Personal Fitness Levels - Identify Health Risks - Create Tailored Exercise Plans - Understanding various roles in Exercise Science and how they contribute to health improvement - Identify, analyze, interpret, and summarize disease

	- Environmental Factors - Metabolic Function - Disease Risk Reduction	statistics and disease trends over time. - Recognizing risk factors for chronic diseases - Formulate strategies to mitigate chronic diseases - Explain the correlation between exercise and disease prevention and management. - Apply exercise principles to disease treatment plans.

Branford Public Schools Global Learning Competencies

GLCs were updated as part of the 2023 Strategic Coherence Plan. The revised GLCs are listed here for reference, though more work is needed before putting them into practice.

BRANFORD HIGH SCHOOL
NEW COURSE PROPOSAL FORM

Course Title: UConn Early College Experience (ECE) Spanish Intermediate Spanish Composition

Credit: 1 credit BHS, 3 credits UConn

Credit Area(s): World Language

Course Proposed by:

- Administration
- Board of Education
- ~~Department~~
- Students (in collaboration with faculty)
- Other (specify):_____

New courses must embed indicators of deep learning:

- Feedback: Providing continuous skills development, recognizing progress at each stage, while incorporating mentoring, feedback, and support throughout the learning process.
- Content: Ensuring students progress from initial understanding to application of content by continuously reviewing and upgrading their knowledge and skills, using high-quality resources, and engaging in hands-on experiences.
- Context: Promoting intrinsic motivation and student engagement in the pursuit of learning by communicating high expectations within an environment of clear rules and procedures and nurturing relationships.
- Community: Cultivating a safe, supportive, and collaborative culture with colleagues, students, and families to optimize learning for educators and students.

Course Catalog Description:

This course is an advanced study of Spanish texts and extensive written practice in a variety of forms ranging from compositions, essays, summaries, and film reviews. Students are exposed to authentic content such as documentary videos, informational articles, cultural and literature readings, and audio, inspiring them to understand target cultures and communicate in Spanish through the perspectives of native speakers while building their own point of view.

By the end of this course, students will develop the ability to communicate at an ACTFL intermediate high to advanced level of Spanish. Students will achieve intermediate to advanced proficiency in reading and writing in the language. They will acquire the ability to exchange opinions and compare products, practices, and perspectives in their own and other cultures. Students will recognize and respect the different cultural norms and traditions that exist among other cultures. They will develop the ability to interpret and discuss literature and film at an intermediate level.

This course is aligned with the principles of the ACTFL 21st-century classroom and the BPS World Language Vision. It makes meaningful connections with diverse cultural practices, products, and perspectives while

fostering the intercultural understanding indispensable to our interconnected world.

Students must complete summer assignments for this course in order to maintain and further fortify their language proficiency and skills.

Prerequisite(s):

Eligibility Guidelines from Uconn ECE:
Successful completion of three or more years of high school Spanish or instructor consent is recommended.

COURSE/DEPARTMENT INFORMATION

How does this course fit into the course offerings? Establish a flow chart of courses and indicate where this course will fit in. *(Is it a stand alone, is it part of a sequence or is it replacing another course?)*

This ECE course will be an additional Spanish course option for students who have completed three years of high school Spanish or have instructor consent.

World Language Flow chart
WIS Spanish or BHS Spanish 1→ Spanish 2→ Spanish 3/3H→ Spanish 4/4H→**Options*:** UConn ECE Spanish 3178 Intermediate Spanish Composition / UConn ECE Latin American Studies / Spanish 5 Standard / Spanish 5 Honors
*Student enrollment will determine which courses run each year.

How many electives does your department currently offer and what are they?

The addition of this Spanish course will be an additional Spanish option for students in their final year of high school Spanish.
The World Language department currently offers UConn ECE options in both French, Latin American Studies, and Latin.

Who is your target audience?

The target audience for this course are advanced level Spanish students who have completed at least three years of Spanish language instruction.

What are the pros and cons of this submission? Have these been thoroughly discussed by the department?

The department has contributed to the following list of pros and cons. The WL dept. will continue to work together on how we will promote our different options to students for final year of high school language study.

Pros
-An additional course option for World Language students in their final year of high school language study.
-An additional opportunity to earn college credit for their advanced language studies.
-A second Spanish based ECE course choice, that differs in content from the ECE Latin American Studies option.
-Will utilize the same resource/curriculum as the UConn ECE French course we currently offer.
-This course may be a good option for our Native or Heritage Spanish speakers.
-Since the Spanish program begins in grade 5, we would like the program to become robust enough to have

several options available to students in their final year of high school language study.

Cons
-Not all of our WL courses can/will run each year, courses will run based on student choice and enrollment. These decisions will be made in coordination with the department and guidance counselors each year.

Does this submission have the full support of the department? Describe any steps taken to gain or measure the level of support.

In addition to ongoing communication and discussion, a survey was sent to the 5-12 World Language department to gauge support and receive feedback.
The 5-12 WL dept. supports the addition of this course to the Program of Studies.

RATIONALE
How does this course contribute to the department's goals and align with the department's standards?

This course is aligned with the principles of the ACTFL 21st-century classroom and the BPS World Language vision. It makes meaningful connections with diverse cultural practices, products, and perspectives while fostering the intercultural understanding indispensable to our interconnected world.
Students are exposed to authentic content such as documentary videos, informational articles, culture and literature readings, and audio, inspiring them to understand target cultures and communicate in Spanish through the perspectives of native speakers while building their own point of view.

What is the need this course addresses?

This course supports student choice and addresses the need for additional Spanish course options for students. Students can choose based on interest between a UConn ECE Spanish course that focuses on literature, composition, and film with a focus on the entire Spanish speaking world, or a UConn ECE Latin American studies course that focuses more on Latin America, or a Spanish 5 standard course that focuses on intermediate communication and culture.

In what ways will deep learning occur throughout the course? *(See the definition of deep learning at the top of the document.)*

- **Feedback:** This course will emphasize the ACTFL Communities Lifelong Learning standard, where learners set goals and reflect on their progress in using languages for enjoyment, enrichment, and advancement. The teacher will support students to reach their individual best level of proficiency and provide feedback in a supportive and respectful classroom community of language learners. In addition to written and oral teacher feedback, students will regularly engage in peer-to-peer and self-assessment.
- **Content:**Students are exposed to engaging and authentic content such as documentary videos, informational articles, culture and literature readings, and audio, inspiring them to understand target cultures and communicate in Spanish through the perspectives of native speakers while building their own point of view. The teacher, their peers, and multiple sources of text and other media sources will serve as mentors for authentic language development.

- **Context**:Any student enrolled in advanced level Spanish courses is, by nature, intrinsically motivated. They possess the passion and personal reasons to continue their pursuit of mastering the Spanish language. Offering an ECE option further encourages and motivates students to improve their learning and understanding of the Spanish language and cultures.
- **Community:** Students will engage in conversations and discussions in Spanish with their peers and teacher. Peer-to-peer and self-assessment provide additional hands-on work with the language. Cultural and linguistic immersion travel to local museums further enriches hands-on experiences by doing and practicing outside of the classroom.

How does this course support the Global Learning Competencies? You may refer to the existing or newly revised GLCs (see page 4).

The following Global Learning Competencies are supported by the following ACTFL World Readiness Standards:

Communication and Active listening and Collaboration

- Interpretive Communication: Learners understand, interpret, and analyze what is heard, read, or viewed on a variety of topics (C.1.2)
- Presentational Communication: Learners present information, concepts, and ideas to inform explain, persuade, and narrate on a variety of topics using appropriate media and adapting to various audiences of listeners, readers, or viewers (C.1.3)
- Interpersonal Communication: Learners interact and negotiate meaning in spoken, signed, or written conversations to share information, reactions, feelings and opinions (C.1.1)

Adaptability and Interest in New Learning and Empathy and Kindness

- Lifelong Learning: Learners set goals and reflect on their progress in using languages for enjoyment, enrichment, and advancement. (C. 5.2)

- Acquiring Information and Diverse Perspectives: Learners access and evaluate information and diverse perspectives that are available through the language and its cultures (C.3.2)

- Cultural Comparisons: Learners use the language to investigate, explain, and reflect on the concept of culture through comparisons of the cultures studied and their own. (C.4.2)

Citizenship and Civic Responsibility

- School and Global Communities: Learners use the language both within and beyond the classroom to interact and collaborate in their community and the globalized world. (C.5.1)

Questioning, Reasoning, and Problem Solving

- Lifelong Learning: Learners set goals and reflect on their progress in using languages for enjoyment, enrichment, and advancement. (C. 5.2)
- Making Connections: Learners build, reinforce, and expand their knowledge of other disciplines while using the language to develop critical thinking and to solve problems creatively. (C.3.1)

BUDGET AND FACILITY CONSIDERATIONS

Staffing Requirements:

Will this create an additional staffing need within the department?

No. This course will just be an additional option, therefore, it will not require additional staffing. Spanish courses will run based on student enrollment and interest in the selection.

Budget Requirements:

Equipment, materials, textbooks? Please distinguish between a one time only and a yearly expense.

One time only expense for the text required for the course. *Perspectivas* Intermediate Spanish / A Cultural Approach / Vista Higher Learning First Edition / 2023 Print + Digital: Perspectivas 1e Student Edition(Hardcover) + Supersite Plus(v) + WebSAM(6 year license) $204.95 per student (includes print textbook and 6 year Supersite access) **$204.95 x 25 (one class set of approximately 25) = 5123.75 + 165.26 tax = 5289.01** Teachers Resource box - 384.95 - will be included free with order above

Facility Requirements:

Additional FTE required	0
Minimum number of students required to run the class	Per BOE policy
Anticipated/estimated enrollment for year one	20-25

Is there classroom availability within the department for this class? If not, how will this class be accommodated within the school?

Yes. This course will be taught in the Spanish classrooms at BHS.

Are there physical needs or limitations for this course? (water, power, room size, etc.)

Per UConn ECE: All foreign language courses cannot exceed 25 students per section.

STAGE ONE LEARNING PLAN

Unit Focus

UNIDAD 1 (LECCIÓN 2 - CON SABOR)

In this flavorful unit, students will embark on a journey through the rich and diverse world of gastronomy in Spanish-speaking countries. They will delve into spoken and written texts to uncover key insights about food and cuisine, sharpening their language skills along the way. Through comparisons of food, music, and celebrations, students will explore the connections between products, practices, and perspectives in their own culture and those of Spanish-speaking communities. Finally, they will develop confidence and cultural sensitivity as they engage in meaningful discussions and demonstrate openness while experiencing unfamiliar foods and drinks.

<table>
<tr><th colspan="3">Learning Goals</th></tr>
<tr><th>Established Goals</th><th colspan="2">Transfer</th></tr>
<tr><th>Standards</th><th colspan="2">Long Term Transfer Goals</th></tr>
<tr><td rowspan="4">ACTFL World Readiness Standards

Interpersonal Communication: Learners interact and negotiate meaning in spoken, signed, or written conversations to share information, reactions, feelings and opinions (C.1.1)

Interpretive Communication: Learner understand, interpret, and analyze what is heard, read, or viewed on a variety of topics (C.1.2)

Presentational Communication: Learners present information, concepts, and ideas to inform explain, persuade, and narrate on a variety of topics using appropriate media and adapting to various audiences of listeners, readers, or viewers (C.1.3)

Relating Cultural Practices to Perspectives: Learners use the language to investigate, explain, and reflect on the relationship between the practices and perspectives of the cultures studied. (C.2.1)

Relating Cultural Products to Perspectives: Learners use the language to investigate, explain, and reflect on the relationship between the products and</td><td colspan="2">T1: Communicate effectively in a variety of situations in order to create meaningful cultural connections and acknowledge and respect diverse perspectives
T2: Explore the relationship between perspectives, products, and practices in order to develop cultural competence and understanding
T4: Make comparisons between the language and culture studied and their own in order to interact with cultural competence.</td></tr>
<tr><th colspan="2">Meaning</th></tr>
<tr><th>Understandings</th><th>Essential Questions</th></tr>
<tr><td>EU1: The world is a global community and it is important that World Language acquisition enables students to converse, interpret authentic material and demonstrate understanding of other cultures in the target language.

EU2: Studying the traditions, products and perspectives of other cultures offers an enhanced understanding of the global community.

EU4: By learning another language and culture, students can have a deeper understanding of their own language and culture.</td><td>EQ1: How can I use the target language to express myself and to communicate ?

EQ2: What is culture?

EQ4: How does the target language and culture compare with my own?</td></tr>
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perspectives of the cultures studied. (C.2.2) Making Connections: Learners build, reinforce, and expand their knowledge of other disciplines while using the language to develop critical thinking and to solve problems creatively. (C.3.1) Acquiring Information and Diverse Perspectives: Learners access and evaluate information and diverse perspectives that are available through the language and its cultures (C.3.2) Language Comparisons: Learners use the language to investigate, explain, and reflect on the nature of language through comparisons of the language studied and their own. (C.4.1) Cultural Comparisons: Learners use the language to investigate, explain, and reflect on the concept of culture through comparisons of the cultures studied and their own. (C.4.2) School and Global Communities: Learners use the language both within and beyond the classroom to interact and collaborate in their community and the globalized world. (C.5.1) Lifelong Learning: Learners set goals and reflect on their progress in using languages for enjoyment, enrichment, and advancement. (C. 5.2)		
Other Goals	**Acquisition of Knowledge & Skill**	
	Knowledge	**Skills**

	Literatura: Neruda, Pablo *Oda al caldillo de congrio* Documental: *Tres famosas marisquerías para disfrutar en la ciudad de México* Artículo: Autėntico *Comida con insectos en México* Target structures: The preterite The imperfect The preterite vs. the imperfect Progressive forms Telling time	● I can understand key information in spoken and written texts related to food and cuisine. ● I can discuss the relationship between food and culture. ● I can write recipes and restaurant reviews. ● I can compare products, practices, and perspectives about food, music, and celebrations in my own culture and other cultures. ● I can demonstrate culturally appropriate behaviors when discussing and trying unfamiliar food and drink. ● I can both narrate events in the past and describe what is going on right now in the current moment.

STAGE ONE LEARNING PLAN

<table>
<tr><th colspan="3">Unit Focus</th></tr>
<tr><td colspan="3">Unidad 2 (Lección 4)-Los seres queridos

This unit invites students to delve into the meaningful theme of loved ones and personal relationships. They will practice identifying main ideas in spoken and written texts, gaining insights into how relationships shape our lives. Through meaningful conversations, students will share and reflect on personal connections while honing their communication skills in both oral and written forms. By comparing perspectives on activities, traditions, and relationships across cultures, students will deepen their understanding of how individuals interact and connect in diverse ways.</td></tr>
<tr><th colspan="3">Learning Goals</th></tr>
<tr><th>Established Goals</th><th colspan="2">Transfer</th></tr>
<tr><th>Standards</th><th colspan="2">Long Term Transfer Goals</th></tr>
<tr><td rowspan="3">ACTFL World Readiness Standards

Interpersonal Communication: Learners interact and negotiate meaning in spoken, signed, or written conversations to share</td><td colspan="2">T1: Communicate effectively in a variety of situations in order to create meaningful cultural connections and acknowledge and respect diverse perspectives
T4: Make comparisons between the language and culture studied and their own in order to interact with cultural competence.</td></tr>
<tr><th colspan="2">Meaning</th></tr>
<tr><th>Understandings</th><th>Essential Questions</th></tr>
</table>

information, reactions, feelings and opinions (C.1.1) Interpretive Communication: Learner understand, interpret, and analyze what is heard, read, or viewed on a variety of topics (C.1.2) Presentational Communication: Learners present information, concepts, and ideas to inform explain, persuade, and narrate on a variety of topics using appropriate media and adapting to various audiences of listeners, readers, or viewers (C.1.3) Relating Cultural Practices to Perspectives: Learners use the language to investigate, explain, and reflect on the relationship between the practices and perspectives of the cultures studied. (C.2.1) Relating Cultural Products to Perspectives: Learners use the language to investigate, explain, and reflect on the relationship between the products and perspectives of the cultures studied. (C.2.2) Making Connections: Learners build, reinforce, and expand their knowledge of other disciplines while using the language to develop critical thinking and to solve problems creatively. (C.3.1) Acquiring Information and Diverse Perspectives: Learners access and evaluate information and diverse perspectives that are available through the language and its cultures (C.3.2) Language Comparisons: Learners use the language to investigate, explain, and reflect on the nature of language through comparisons	EU1: The world is a global community and it is important that World Language acquisition enables students to converse, interpret authentic material and demonstrate understanding of other cultures in the target language. EU4: By learning another language and culture, students can have a deeper understanding of their own language and culture.	How do my personal relationships and interactions define who I am? EQ1: How can I use the target language to express myself and to communicate ? EQ4: How does the target language and culture compare with my own?

of the language studied and their own. (C.4.1) Cultural Comparisons: Learners use the language to investigate, explain, and reflect on the concept of culture through comparisons of the cultures studied and their own. (C.4.2) School and Global Communities: Learners use the language both within and beyond the classroom to interact and collaborate in their community and the globalized world. (C.5.1) Lifelong Learning: Learners set goals and reflect on their progress in using languages for enjoyment, enrichment, and advancement. (C. 5.2)		
Other Goals	**Acquisition of Knowledge & Skill**	
	Knowledge	**Skills**
	Literatura: Lourdes, Márquez Barrios. *Anacrusa* Articulos: Winter, Brian. *Estos chicos representaban lo mejor de Argentina* Documental: *Amor después del amor* Target structures: The subjunctive in adjective clauses Reflexive verbs Por and Para To become: hacerse, ponerse, volverse, and llegar a ser (3.1) The subjunctive in noun clauses	● I can identify the main idea of spoken and written texts about loved ones and personal relationships. ● I can participate in conversation on personal relationships. ● I can communicate orally and in writing about how individuals interact. ● I can interact appropriately at events with family and friends based on cultural norms ● I can use adjective clauses to describe the unknown or uncertainties

STAGE ONE LEARNING PLAN

Unit Focus

Unidad 3 (Lección 5)-Perspectivas profesionales

In this unit, students will explore the interconnected worlds of work and education. They will identify main ideas in spoken and written texts while engaging in thoughtful exchanges of opinions on educational approaches. Students will sharpen their writing skills by crafting compelling cover letters and gain a deeper understanding of global perspectives by comparing views on college and employment across cultures. Finally, they will showcase their qualifications and aspirations by presenting goals for an academic program, training, or job opportunity.

<table>
<tr><th colspan="3">Learning Goals</th></tr>
<tr><th>Established Goals</th><th colspan="2">Transfer</th></tr>
<tr><th>Standards</th><th colspan="2">Long Term Transfer Goals</th></tr>
<tr><td rowspan="4">ACTFL World Readiness Standards

Interpersonal Communication: Learners interact and negotiate meaning in spoken, signed, or written conversations to share information, reactions, feelings and opinions (C.1.1)

Interpretive Communication: Learner understand, interpret, and analyze what is heard, read, or viewed on a variety of topics (C.1.2)

Presentational Communication: Learners present information, concepts, and ideas to inform explain, persuade, and narrate on a variety of topics using appropriate media and adapting to various audiences of listeners, readers, or viewers (C.1.3)

Relating Cultural Practices to Perspectives: Learners use the language to investigate, explain, and reflect on the relationship between the practices and perspectives of the cultures studied. (C.2.1)

Relating Cultural Products to Perspectives: Learners use the language to investigate, explain, and reflect on the relationship between the products and</td><td colspan="2">T1: Communicate effectively in a variety of situations in order to create meaningful cultural connections and acknowledge and respect diverse perspectives
T6: Set goals and reflect on their progress in using languages for enjoyment, enrichment, and advancement.</td></tr>
<tr><td colspan="2">Meaning</td></tr>
<tr><td>Understandings</td><td>Essential Questions</td></tr>
<tr><td>EU6: Learning a World Language opens doors to a greater variety of career options and increased lifelong learning opportunities

EU7: Self-reflection is an important tool in fostering personal growth in language acquisition.</td><td>EQ6: How does learning another language help me to broaden my own personal interests?

EQ7: How do I reflect on my progress as a language learner?</td></tr>
</table>

perspectives of the cultures studied. (C.2.2) Making Connections: Learners build, reinforce, and expand their knowledge of other disciplines while using the language to develop critical thinking and to solve problems creatively. (C.3.1) Acquiring Information and Diverse Perspectives: Learners access and evaluate information and diverse perspectives that are available through the language and its cultures (C.3.2) Language Comparisons: Learners use the language to investigate, explain, and reflect on the nature of language through comparisons of the language studied and their own. (C.4.1) Cultural Comparisons: Learners use the language to investigate, explain, and reflect on the concept of culture through comparisons of the cultures studied and their own. (C.4.2) School and Global Communities: Learners use the language both within and beyond the classroom to interact and collaborate in their community and the globalized world. (C.5.1) Lifelong Learning: Learners set goals and reflect on their progress in using languages for enjoyment, enrichment, and advancement. (C. 5.2)		
Other Goals	**Acquisition of Knowledge & Skill**	
	Knowledge	**Skills**

	Literatura: Rivas, Manuel. *La lengua de las mariposas* Articulos: Alex, Gustavo Ocando *Los profesionales de Colombia y Ecuador* Documental: *"Mis manos, mi voz", para una educación inclusiva* Target structure: The future The conditional Relative pronouns Qué vs cuál The neuter **lo**	● I can identify the main idea in spoken and written contexts related to work and education ● I can exchange opinions related to educational approaches. ● I can write a cover letter describing my personal, academic, and professional skills and goals. ● I can compare perspectives related to college and employment in my own and other countries. ● I can use irregular the future and conditional tense to present my qualifications and goals for an academic program, a training, or a job.

STAGE ONE LEARNING PLAN

<table>
<tr><th colspan="3">Unit Focus</th></tr>
<tr><td colspan="3">Unidad 4 (Lección 6) En Comunidad
This unit invites students to examine the dynamic world of society and public life. They will explore spoken and written texts to uncover main ideas and key details about public institutions and civic engagement. Through discussions, students will compare and contrast their views on politics and public institutions with those of their peers, gaining new insights. They will also delve into cultural perspectives on the military and multiculturalism, reflecting on similarities and differences across societies. To culminate their learning, students will investigate the advantages and disadvantages of three political candidates, applying their knowledge to analyze real-world scenarios.</td></tr>
<tr><th colspan="3">Learning Goals</th></tr>
<tr><th>Established Goals</th><th colspan="2">Transfer</th></tr>
<tr><th>Standards</th><th colspan="2">Long Term Transfer Goals</th></tr>
<tr><td rowspan="3">Interpersonal Communication: Learners interact and negotiate meaning in spoken, signed, or written conversations to share information, reactions, feelings and opinions (C.1.1)</td><td colspan="2">T1: Communicate effectively in a variety of situations in order to create meaningful cultural connections and acknowledge and respect diverse perspectives.
T2: Explore the relationship between perspectives, products, and practices in order to develop cultural competence and understanding.
T3: Connect with other disciplines and acquire information and diverse perspectives to become well rounded, informed global citizens.</td></tr>
<tr><td colspan="2">Meaning</td></tr>
<tr><td>Understandings</td><td>Essential Questions</td></tr>
</table>

Interpretive Communication: Learner understand, interpret, and analyze what is heard, read, or viewed on a variety of topics (C.1.2) Presentational Communication: Learners present information, concepts, and ideas to inform explain, persuade, and narrate on a variety of topics using appropriate media and adapting to various audiences of listeners, readers, or viewers (C.1.3) Relating Cultural Practices to Perspectives: Learners use the language to investigate, explain, and reflect on the relationship between the practices and perspectives of the cultures studied. (C.2.1) Relating Cultural Products to Perspectives: Learners use the language to investigate, explain, and reflect on the relationship between the products and perspectives of the cultures studied. (C.2.2) Making Connections: Learners build, reinforce, and expand their knowledge of other disciplines while using the language to develop critical thinking and to solve problems creatively. (C.3.1) Acquiring Information and Diverse Perspectives: Learners access and evaluate information and diverse perspectives that are available through the language and its cultures (C.3.2) Language Comparisons: Learners use the language to investigate, explain, and reflect on the nature of language through comparisons of the language studied and their own. (C.4.1)	EU1: The world is a global community and it is important that World Language acquisition enables students to converse, interpret authentic material and demonstrate understanding of other cultures in the target language. EU2: Studying the traditions, products and perspectives of other cultures offers an enhanced understanding of the global community. EU3: Students' proficiency in the target language will enable them to gain interdisciplinary and cross cultural knowledge and understanding.	EQ1: How can I use the target language to express myself and to communicate? EQ2: What is culture? EQ3: How do I use the target language to connect with other content areas and cultures?

Cultural Comparisons: Learners use the language to investigate, explain, and reflect on the concept of culture through comparisons of the cultures studied and their own. (C.4.2) School and Global Communities: Learners use the language both within and beyond the classroom to interact and collaborate in their community and the globalized world. (C.5.1) Lifelong Learning: Learners set goals and reflect on their progress in using languages for enjoyment, enrichment, and advancement. (C. 5.2)		
Other Goals	**Acquisition of Knowledge & Skill**	
	Knowledge	**Skills**
	Literatura: Márquez, Gabriel Garciá. *Un día de estos* Artículos: Regidor, Cindy. *¿Cómo vive un país sin ejército? Costa Rica cumple 70 años sin el* Documental: *El sistema de salud de Costa Rica* Target Structure: The subjunctive in adverbial clauses The past subjunctive Comparatives and superlatives Adverbs Diminutives and augmentatives	● I can understand the main idea and key information of spoken and written texts related to public life. ● I can compare and contrast my views with those of my peers regarding politics and public institutions. ● I can make a presentation about the role of minority groups in politics. ● I can compare perspectives on healthcare and the military in your own and other cultures. ● I can use the subjunctive to express opinion, and emotion on politician .

STAGE ONE LEARNING PLAN

Unit Focus

Unidad 5 (Lección 7)-Tesoros visuales

In this unit, students will immerse themselves in the vibrant world of artistic expression and visual arts. They will interpret main ideas and key details from spoken and written texts about various forms of art. Through meaningful exchanges, students will share their perspectives on the concept of art and its many expressions. They will also design and present a proposal for an art project that reflects their cultural identity. By exploring the interplay between traditions, events, and art in their own and other cultures, students will deepen their appreciation of how art shapes and is shaped by society. Discussions will also consider the historical and cultural contexts of target countries, providing a richer understanding of the works they study.

<table>
<tr><th colspan="3">Learning Goals</th></tr>
<tr><th>Established Goals</th><th colspan="2">Transfer</th></tr>
<tr><th>Standards</th><th colspan="2">Long Term Transfer Goals</th></tr>
<tr><td rowspan="4">Interpersonal Communication: Learners interact and negotiate meaning in spoken, signed, or written conversations to share information, reactions, feelings and opinions (C.1.1)

Interpretive Communication: Learner understand, interpret, and analyze what is heard, read, or viewed on a variety of topics (C.1.2)

Presentational Communication: Learners present information, concepts, and ideas to inform explain, persuade, and narrate on a variety of topics using appropriate media and adapting to various audiences of listeners, readers, or viewers (C.1.3)

Relating Cultural Practices to Perspectives: Learners use the language to investigate, explain, and reflect on the relationship between the practices and perspectives of the cultures studied. (C.2.1)

Relating Cultural Products to Perspectives: Learners use the language to investigate, explain, and reflect on the relationship between the products and perspectives of the cultures studied. (C.2.2)</td><td colspan="2">T1: Communicate effectively in a variety of situations in order to create meaningful cultural connections and acknowledge and respect diverse perspectives
T2: Explore the relationship between perspectives, products, and practices in order to develop cultural competence and understanding.
T4: Make comparisons between the language and culture studied and their own in order to interact with cultural competence.</td></tr>
<tr><td colspan="2">Meaning</td></tr>
<tr><td>Understandings</td><td>Essential Questions</td></tr>
<tr><td>EU1: The world is a global community and it is important that World Language acquisition enables students to converse, interpret authentic material and demonstrate understanding of other cultures in the target language.

EU2: Studying the traditions, products and perspectives of other cultures offers an enhanced understanding of the global community.

EU4: By learning another language and culture, students can have a deeper understanding of their own language and culture.</td><td>EQ1: How can I use the target language to express myself and to communicate ?

EQ2: What is culture?

EQ4: How does the target language and culture compare with my own?

EQ5: How do traditions and events influence art?</td></tr>
</table>

Making Connections: Learners build, reinforce, and expand their knowledge of other disciplines while using the language to develop critical thinking and to solve problems creatively. (C.3.1) Acquiring Information and Diverse Perspectives: Learners access and evaluate information and diverse perspectives that are available through the language and its cultures (C.3.2) Language Comparisons: Learners use the language to investigate, explain, and reflect on the nature of language through comparisons of the language studied and their own. (C.4.1) Cultural Comparisons: Learners use the language to investigate, explain, and reflect on the concept of culture through comparisons of the cultures studied and their own. (C.4.2) School and Global Communities: Learners use the language both within and beyond the classroom to interact and collaborate in their community and the globalized world. (C.5.1) Lifelong Learning: Learners set goals and reflect on their progress in using languages for enjoyment, enrichment, and advancement. (C. 5.2)		
Other Goals	**Acquisition of Knowledge & Skill**	
	Knowledge	**Skills**
	Literartura: Dario, Ruben. *A Goya* Artículos: Uribarri, Fatima. *¿Por qué nos fascina el Guernica?* Documental: *Los cuadros que salvo la Republica del Museo del Prado*	● I can understand the main idea and key information of spoken and written texts related to visual arts. ● I can exchange ideas about the concept of art and the different kinds of arts.

	Target structure: The present perfect The present perfect subjunctive Uses of **se** Past participles used as adjectives Time expressions with **hacer** Mini-lessons: The past perfect Uses of the infinitive Prepositions Transitional expressions	● I can present a proposal for an art project that reflects my culture. ● I can compare how traditions and events influence art, and vice versa, in my own and other cultures. ● I can consider the historical and cultural contexts of the target countries when discussing works of art. ● I can use the present perfect to describe actions in the past that are still relative to the present

STAGE ONE LEARNING PLAN

<table>
<tr><th colspan="3">Unit Focus</th></tr>
<tr><td colspan="3">Unidad 6 [Lección 10]-El mundo de las letras

In this unit, students will explore the transformative power of language and literature as forms of artistic expression. They will uncover main ideas and key details in spoken and written texts related to language, literature, and culture. Through engaging discussions, students will delve into topics such as immigration and the role of Spanish in their community. They will also compare Latin-American cultural products and practices with those in their own lives, gaining a deeper appreciation for cultural diversity. To conclude, students will articulate the benefits of language learning through reflective and creative writing.</td></tr>
<tr><th colspan="3">Learning Goals</th></tr>
<tr><th>Established Goals</th><th colspan="2">Transfer</th></tr>
<tr><th>Standards</th><th colspan="2">Long Term Transfer Goals</th></tr>
<tr><td rowspan="4">Interpersonal Communication: Learners interact and negotiate meaning in spoken, signed, or written conversations to share information, reactions, feelings and opinions (C.1.1)

Interpretive Communication: Learner understand, interpret, and analyze what is heard, read, or viewed on a variety of topics (C.1.2)</td><td colspan="2">T1: Communicate effectively in a variety of situations in order to create meaningful cultural connections and acknowledge and respect diverse perspectives.
T6: Set goals and reflect on their progress in using languages for enjoyment, enrichment, and advancement.</td></tr>
<tr><td colspan="2">Meaning</td></tr>
<tr><td>Understandings</td><td>Essential Questions</td></tr>
<tr><td>EU1: The world is a global community and it is important that World Language acquisition enables students to converse, interpret authentic material and demonstrate understanding of other cultures in the target</td><td>How can I enrich myself personally?

EQ1: How can I use the target language to express myself and to communicate ?</td></tr>
</table>

Presentational Communication: Learners present information, concepts, and ideas to inform explain, persuade, and narrate on a variety of topics using appropriate media and adapting to various audiences of listeners, readers, or viewers (C.1.3) Relating Cultural Practices to Perspectives: Learners use the language to investigate, explain, and reflect on the relationship between the practices and perspectives of the cultures studied. (C.2.1) Relating Cultural Products to Perspectives: Learners use the language to investigate, explain, and reflect on the relationship between the products and perspectives of the cultures studied. (C.2.2) Making Connections: Learners build, reinforce, and expand their knowledge of other disciplines while using the language to develop critical thinking and to solve problems creatively. (C.3.1) Acquiring Information and Diverse Perspectives: Learners access and evaluate information and diverse perspectives that are available through the language and its cultures (C.3.2) Language Comparisons: Learners use the language to investigate, explain, and reflect on the nature of language through comparisons of the language studied and their own. (C.4.1) Cultural Comparisons: Learners use the language to investigate, explain, and reflect on the concept of culture through comparisons of	language. EU6: Learning a World Language opens doors to a greater variety of career options and increased lifelong learning opportunities EU7: Self-reflection is an important tool in fostering personal growth in language acquisition.	EQ6: How does learning another language help me to broaden my own personal interests? EQ7: How do I reflect on my progress as a language learner?

the cultures studied and their own. (C.4.2) School and Global Communities: Learners use the language both within and beyond the classroom to interact and collaborate in their community and the globalized world. (C.5.1) Lifelong Learning: Learners set goals and reflect on their progress in using languages for enjoyment, enrichment, and advancement. (C. 5.2)		
Other Goals	**Acquisition of Knowledge & Skill**	
	Knowledge	**Skills**
	Literatura: Rossi, Cristina Peri. *Punto Final* Artículos: Lozano, Rosina. *El español nunca fue una lengua extranjera en Estados Unidos* Documental: *La huella latina en Estados Unidos* Target Structures: The passive voice Negative and affirmative expression Summary of the indicative and the subjunctive Pero vs. sino	● I can understand most of what is said or written in texts related to language and literature. ● I can participate in a discussion about immigration and the status of Spanish in the community. ● I can write about the benefits of language learning using the passive voice and negative and affirmative expressions.

Branford Public Schools Global Learning Competencies

GLCs were updated as part of the 2023 Strategic Coherence Plan. The revised GLCs are listed here for reference, though more work is needed before putting them into practice.

BRANFORD HIGH SCHOOL
NEW COURSE PROPOSAL FORM

Course Title: Art and Culture

Credit: 0.5 credit

Credit Area(s): Visual Art Elective

Course Proposed by:

Administration
Board of Education
Fine Arts Department

- Students (in collaboration with faculty)
- Other (specify):

New courses must embed indicators of deep learning:

- Focus on intrinsic motivation, passion and reason as the drivers of the pursuit of learning.
- Provide ongoing skills development and recognition of progress along the way.
- Include hands-on learning by doing and practice.
- Require appropriate resources to facilitate learning.
- Flourish within a culture of optimism and support.

Course Catalog Description:

Art and Culture is a one-semester course designed for grades 9-12, providing a cultural context of art's historical role in society. Students explore major art movements, analyze art's impact on culture, and engage in hands-on projects to express their insights. This course fulfills a Fine Arts graduation requirement while emphasizing National Art Standards, focusing on connecting with and responding to art.

Prerequisite(s):

N/A

COURSE/DEPARTMENT INFORMATION

How does this course fit into the course offerings? Establish a flow chart of courses and indicate where this course will fit in. *(Is it a stand alone, is it part of a sequence or is it replacing another course?)*

This is a standalone course targeting students interested in project-based learning across diverse art media. The goal of the course will be to provide students with a foundational knowledge of art history within a multicultural society, satisfying the graduation requirement while building an appreciation for the arts and a confidence in self-expression.

How many electives does your department currently offer and what are they?

There are currently 16 art electives: AP Studio Art, Ceramics/3D Design, Advanced Ceramics/3D Design, Fiber Arts-Fashion Design, Advanced Fiber Arts-Fashion Design, Drawing/Painting, Studio Art, Computer Animation, Graphic Design, Advanced Graphic Design, Jewelry Design and Wire Manipulation, Advanced Jewelry Smithing, Photograph, Advanced Photography and Photoshop, Sculpture, and Advanced Sculpture.

Who is your target audience?

9-12 grade

What are the pros and cons of this submission? Have these been thoroughly discussed by the department?

Pros include fostering cultural awareness, offering hands-on art practice, and aligning with Fine Arts standards. A significant asset discussed by the faculty is that a presence of a new elective can help to even out class enrollment, providing students with a new option that encompasses a broader curriculum that can be easily adapted and differentiated to student needs. Potential cons could be the need for additional resources (e.g., Wacom tablets), though these are not essential.

Does this submission have the full support of the department? Describe any steps taken to gain or measure the level of support.

Yes. The department met to discuss the proposed course and gain support.

RATIONALE

How does this course contribute to the department's goals and align with the department's standards?

The course aligns with Fine Arts objectives by fostering art appreciation, historical knowledge, and personal expression through art.

What is the need this course addresses?

Provides a cultural and historical perspective on art, meeting a demand for broader arts education.

In what ways will deep learning occur throughout the course? *(See the definition of deep learning at the top of the document.)*

Feedback:
The course will provide continuous feedback on skills development through class discussions, project critiques, and reflective activities that promote growth in art analysis and creation.

Content:
Students will study historical and contemporary art movements, analyze art's cultural impact, and create projects, helping them progress from understanding to applying art knowledge.

Context:

The course will engage students by exploring the relevance of art in personal and societal contexts, helping students connect learning to their own experiences and communities.

Community:
The course will encourage collaboration and discussion among peers, building a supportive environment for artistic expression and exploration.

How does this course support the Global Learning Competencies? You may refer to the existing or newly revised GLCs (see page 4).

The course will encourage critical thinking, communication, and cultural awareness, aligning with competencies aimed at global-mindedness and cross-cultural understanding.

Communication & Active Listening:

- Application: Art inherently involves interpretation, discussion, and expression. In this course, students present their insights on artworks, explain the significance of art in different cultural contexts, and engage in group discussions to convey their ideas.
- Outcome: Through these activities, students improve their ability to articulate complex ideas, listen to diverse perspectives, and communicate effectively, both in written and verbal formats.

Collaboration:

- Application: Group projects and discussions on artistic interpretations allow students to work together, share ideas, and respect others' perspectives. They learn how to navigate differing interpretations and collaboratively build deeper insights into artworks.
- Outcome: These collaborative activities build interpersonal skills and encourage teamwork, equipping students to work effectively in diverse group settings.

Adaptability and Interest in New Learning:

- Application #1: The course exposes students to a wide array of art styles, movements, and cultural influences, pushing them to think flexibly and adapt their perspectives as they encounter new information. By analyzing art from different eras and cultures, students develop the ability to shift viewpoints, respond to evolving interpretations, and embrace diverse artistic expressions.
- Application #2: Through hands-on projects, research, and discussions, students actively engage with historical and contemporary art forms, sparking curiosity about the world and an appreciation for continuous learning. The course's emphasis on reflection and personal expression encourages students to pursue topics of interest and delve into the connections between art, culture, and their own lives.
- Outcome #1 Students learn to approach new and unfamiliar concepts with an open mind, a skill essential for adapting to varied situations, viewpoints, and ideas both in art and beyond. This adaptability prepares them to navigate complex, changing environments in their future academic and personal lives.
- Outcome #2: By inspiring students to explore the unknown and take ownership of their learning, the course nurtures a sustained interest in discovering new ideas. This fosters a mindset of lifelong learning, where students are motivated to seek knowledge, embrace challenges, and remain intellectually curious.

Empathy and Kindness:

- Application: The course covers a variety of cultural and historical perspectives on art, helping students

appreciate the role of art across different societies. Students explore how art reflects and shapes cultural identities, traditions, and values, fostering an understanding of cultural diversity.
- Outcome: This broadens students' perspectives, encouraging respect for and sensitivity toward cultural differences, a key competency in our interconnected world.

Citizenship and Civic Responsibility:
- Application: By examining global art movements and their connections to societal issues, students see how art transcends borders and unites diverse cultures. The course emphasizes how historical and contemporary art influences global communities, thereby promoting a sense of shared human experience.
- Outcome: Students develop a mindset that values and seeks to understand different worldviews, enhancing their capacity to engage thoughtfully with global issues.

By integrating these competencies into its curriculum, the Art and Culture course not only enriches students' understanding of art but also prepares them to engage thoughtfully and responsibly in a global society. This approach aligns well with GLCs, cultivating students who are informed, empathetic, and capable of navigating a culturally complex world.

BUDGET AND FACILITY CONSIDERATIONS

Staffing Requirements:

Will this create an additional staffing need within the department?

No

Budget Requirements:

Equipment, materials, textbooks? Please distinguish between a one time only and a yearly expense.

One time expense: 10 Wacom tablets (approximately $500)

Facility Requirements:

Additional FTE required	0
Minimum number of students required to run the class	12
Anticipated/estimated enrollment for year one	20-25 students

Is there classroom availability within the department for this class? If not, how will this class be accommodated within the school?

Yes

Are there physical needs or limitations for this course? (water, power, room size, etc.)

N/A

STAGE ONE LEARNING PLAN

<table>
<tr><th colspan="3">Unit Focus</th></tr>
<tr><td colspan="3">Unit 1 serves as an introduction of the course, introducing the idea that art stems from a need for cultural representation, and is a reflection of one's customs, values, heritage and geographical location. This unit will draw from students' own experience as well as the works of artists to help students gain an understanding of how art making has helped to create cultural impact around the world.</td></tr>
<tr><th colspan="3">Learning Goals</th></tr>
<tr><th>Established Goals</th><th colspan="2">Transfer</th></tr>
<tr><th>Standards</th><th colspan="2">Long Term Transfer Goals</th></tr>
<tr><td rowspan="3">VA:Cr1.2.IIa VA:Cr1.2.IIIa
Choose from a range of materials and methods of traditional and contemporary artistic practices to plan works of art and design
Collaboratively shape an artistic investigation of an aspect of present day life using a contemporary practice of art and design.
VA:Cr2.1.IIa VA:Cr2.1.IIIa
Through experimentation, practice, and persistence, demonstrate acquisition of skills and knowledge in a chosen art form.
VA:Cr3.1.IIa
Engage in constructive critique with peers, then reflect on, re engage, revise, and refine works of</td><td colspan="2">Students will independently apply their understanding of artistic movements, cultural contexts, and historical significance to analyze, interpret, and create artworks that express personal insights and respond to contemporary societal issues</td></tr>
<tr><td colspan="2">Meaning</td></tr>
<tr><td>Understandings</td><td>Essential Questions</td></tr>
<tr><td>1. Artistic Techniques Allow for Meaning and Purpose: Drawing techniques offer the artist a variety of ways to convey meaning through lines, shading, perspective, and use of positive/negative space. Exploring the 2-dimensional and 3-dimensionality of drawings in figure/ground relationships of forms in space will help develop a compositional mindset. As students grow their skill in using specific drawing techniques, they will discover which ones most powerfully help them express personal meaning and connectedness to self and their relationships to the world.</td><td>1. How can artists manipulate media by using a variety of techniques and processes?

2. How and why do artists use perspective?

3. How is mark-making (drawing, painting) a tool to develop and express an artist's voice?

4. What conditions, attitudes, and behaviors support creativity and innovative thinking? What factors prevent or encourage people to take creative risks? How does collaboration expand the creative process?

5. What responsibilities come with the freedom to create?</td></tr>
</table>

art and design in response to personal artistic vision.	2. Perspective is about understanding how to present and interact with space: Students are looking at their surroundings and using perspective to create a unique, realistic, and expressive vision of the world. Manipulating perspective is about manipulating the rules in order to give voice to ideas, beliefs, values and connections. 3. Art is a medium of self-expression: Students can use drawing techniques to create personally meaningful works of art that, when examined as a collection, can highlight how the artist's voice develops and grows as techniques are mastered and insights are deepened. The artist tells a story through art - and their voice creates the meaning of those stories through their images.	
Other Goals	**Acquisition of Knowledge & Skill**	
Opportunities for Interdisciplinary Connections: ● Identity: The voice of an artist is one of self-expression and understanding where they stand in the world. Students have opportunities to view the world with a critical eye, and use the arts as a way to turn their vision of the world back on itself. How we perceive ourselves in society and culture plays a critical role in the art that we create, and an artist's voice - when realized - can change how others perceive their world, their relationships, and their beliefs.	**Knowledge** **Students in the "Art and Culture" course will gain foundational knowledge of:** 1. Major Art Movements: Key historical and contemporary art movements, including their cultural and societal contexts. 2. Art's Role in Society: Understanding how art reflects and influences cultural identity, values, and societal change. 3. Art Evaluation and Interpretation: Learning to perceive and interpret the meanings and intentions behind various works of art.	**Skills** **Throughout the course, students will develop skills in:** 1. Art Critique and Analysis: Evaluating artistic works by considering elements such as intent, context, and technique. 2. Creative Expression: Creating art that synthesizes personal experience and knowledge of historical art trends. 3. Technical Proficiency in Adobe Photoshop: Gaining hands-on experience with digital tools to create and enhance artwork. 4. Mixed Media Art Techniques: Experimenting with various materials and

• Representation: Culture and social norms influence the art that is created. Throughout history, artists have been constrained by power structures like religion, government, and political climate. Art is a reflection of culture, and can be used to understand and examine what was important, valued and respected. Artists have not always been free to express their vision or criticism of culture and society. In representing the world and themselves, how is the voice of the artist influential in the meaning that is made?	4. Media and Techniques: An introduction to mixed media art, combining different materials and methods for creative expression.	combining media to produce innovative artworks.

Branford Public Schools Global Learning Competencies

GLCs were updated as part of the 2023 Strategic Coherence Plan. The revised GLCs are listed here for reference, though more work is needed before putting them into practice.


Communication and Active Listening
Collaboration
Adaptability and Interest in New Learning
Empathy and Kindness
Citizenship and Civic Responsibility
Questioning, Reasoning and Problem Solving
Branford Public Schools
Learning Today, Leading Tomorrow