Board of Education

5 Minortown Road ~ Woodbury, CT 06798

www.ctreg14.org

Mission: The mission of Connecticut Region 14 Schools is to educate all students to their highest level of academic potential and to teach them the skills and knowledge to become capable, creative, collaborative lifelong learners and responsible members of the world community.

Board of Education Goals:

Academic Performance - The district will strive to improve academic performance for all students on multiple assessment indicators and the staff will be committed to continuous improvement.

Communication - Region 14 will develop partnerships with all stakeholders in the school community to highlight the exemplary programs the district offers

Safety - Region 14 will provide safe and secure facilities equipped with technology, enabling a 21st century learning environment that supports the values of the district

Budget - Region 14 will prepare a budget that meets the needs of every student and communicates the needs and priorities of Region 14 in a clear and concise manner.

A G E N D A

Special Meeting

Curriculum Committee Meeting

Wednesday, June 11, 2025; **1:00** p.m.

Central Office Conference Room

I. Call to order

II. Curriculum Documents for Approval
   - A. AP/UConn Environmental Science
   - B. Physics
   - C. English 11: Surviving the Journey - A Literary Perspective
   - D. Building Bridges B
   - E. Marketing 1
   - F. UConn ECE Personal Finance
   - G. AP French

III. Course Proposal
   - A. Dual Credit French 4 through ECSU

IV. Adjourn

AP/ECE ENVIRONMENTAL SCIENCE CURRICULUM

	
Grade Level(s): 11-12	**Curriculum Author(s):** Kathleen Yocis

Course Description: *The AP Environmental Science course is designed to be the equivalent of a one-semester, introductory college course in environmental science, through which students engage with the scientific principles, concepts, and methodologies required to understand the interrelationships within the natural world. Students cultivate their understanding of the interrelationships of the natural world through inquiry-based lab investigations and field work as they explore concepts like the four Big Ideas; energy transfer, interactions between earth systems, interactions between different species and the environment, and sustainability.The course requires that students identify and analyze natural and human-made environmental problems, evaluate the relative risks associated with these problems, and examine alternative solutions for resolving or preventing them. Environmental science is interdisciplinary, embracing topics from geology, biology, environmental studies, environmental science, chemistry, and geography.*

Year At A Glance			
Unit Title	**Overarching Essential Question**	**Overarching Enduring Understanding**	**Vision of A Learner Attribute and Indicator**
Unit 1: The Living World: Ecosystems (4 weeks)	What is environmental science and why is it important?	Ecosystems are the result of biotic and abiotic interactions.	TCC1(9-12); CCE1(9-12); TCC4(9-12)
Unit 2: The Living World: Biodiversity (3-4 weeks)	How do scientists define biodiversity at different scales and how biodiversity at each scale affects responses to environmental stressors?	Ecosystems have structure and diversity that change over time.	CCE1(9-12); CCE4(9-12); TCC1(9-12); TCC2(9-12)
Unit 3: Populations (3-4 weeks)	How do populations change over time in reaction to a variety of ecosystem factors, including the impacts of and differences between generalist and specialist species and how each excels in specific types of habitats?	Populations change over time in reaction to a variety of factors.	TCC4(9-12); CCE2(9-12)
Unit 4: Earth Systems and Resources (3-4 weeks)	How does the scale of the biosphere affect the various systems of the Earth, including the different layers inside our planet, the formation of soils, the compositions of our atmosphere, and the global patterns of air circulation that drives global weather?	Earth's systems interact, resulting in a state of balance over time.	TCC1(9-12); TCC3(9-12); CCE2(9-12); DE2(9-12)
Unit 5: Land and Water Use (4-5 weeks)	How are public lands used and misused and how can sustainability practices improve	When humans use natural resources, they alter natural systems.	TCC1(9-12); TCC3(9-12); CCE2(9-12); CCE4(9-12)

	our ecological footprint?		
Unit 6: Energy Resources and Consumption (3-4 weeks)	What are the energy resources that we currently use and their environmental impact and how can conservation and efficiency help reduce energy use?	Humans use energy from a variety of sources, resulting in positive and negative consequences.	TCC1(9-12); TCC3(9-12); TCC4(9-12); TI4(9-12)
Unit 7: Atmospheric Pollution (3-4 weeks)	What are air pollutants and how can they affect the environment and overall health?	Human activities have physical, chemical, and biological consequences for the atmosphere.	TCC1(9-12); TCC4(9-12); CCE1(9-12); CCE4(9-12)
Unit 8: Aquatic and Terrestrial Pollution (3-4 weeks)	How can we determine the impacts of aquatic and terrestrial pollutants on the environment and human health?	Human activities, including the use of resources, have physical, chemical, and biological consequences for ecosystems.	TCC1(9-12); CCE2(9-12); TCC3(9-12)
Unit 9: Global Change (3-4 weeks)	How have humans altered the world's atmosphere and climate and what are the underlying causes of these changes?	Local and regional human activities can have impacts at the global level.	AA4(9-12); TCC1(9-12); CCE2(9-12); TCC3(9-12)
Post AP Exam - ECE Final Unit	How can we be more aware of our impact on the environment and make changes in our daily lives to improve our ecological footprint?	Our daily activities have an environmental impact and we need to recognize this and work at adjusting our behavior to help conserve our ecosystem.	AA4(9-12); TCC1(9-12); CCE2(9-12); TCC3(9-12)

Unit 1 - The Living World: Ecosystems
Desired Results
Established Goals: **Common Core State Standards:** RI.9-10.1: Cite specific textual evidence to support analysis of science and technical texts, attending to the precise details of explanations or descriptions. MP.4: Model with mathematics W.9-10.2: Write informative/explanatory texts to examine and convey complex ideas, concepts, and information clearly and accurately through the effective selection, organization, and analysis of content. HSN-Q.A.2: Define appropriate quantities for the purpose of descriptive modeling. HSS-1C.B.6: Evaluate reports based on data. RST.11-12.8: Evaluate the hypotheses, data, analysis, and conclusions in a science or technical text, verifying the data when possible and corroborating or challenging conclusions with other sources of information **NGSS Standards:** HS-LS2-4: Use mathematical representations to support claims for the cycling of matter and flow of energy among organisms in an ecosystem. 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. HS-LS2-6: 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 the conditions may result in a new ecosystem. HS-LS4-5: Evaluate the evidence supporting claims that changes in the environmental conditions may result in: (1) increases in the number of individuals of some species, (2) the emergence of new species over time, and (3) the extinction of other species. HS-ESS2-6: Develop a quantitative model to describe the cycling of carbon among the biosphere, atmosphere, hydrosphere, and geosphere. HS-ESS3-1. Construct an explanation based on evidence for how the availability of natural resources, occurrence of natural hazards, and changes in climate have influenced human activity. HS-ESS3-4. Evaluate or refine a technological solution that reduces impacts of human activities on natural systems.
Vision of A Learner Attributes: Students will be able to independently use their learning to... TCC1(9-12): I can ask purposeful, insightful questions to find a variety of innovative solutions. (*Nitrogen cycle STEM Study)* TCC2(9-12): I can evaluate evidence from multiple perspectives, and recognize their limitations and implications, in order to justify new conclusions. *(ScrAPEbook article reviews-run various times of the year)* TCC4(9-12): I can integrate my learning to adapt to experiences in the classroom, career and life. (*Nitrogen cycle STEM Study)* CCE4(9-12): I can communicate and express my understanding in an authentic, respectful and relevant way, using the most effective mode of expression. (*Legislation Presentations run throughout year assigned in Unit#1)*

CCE1(9-12): I can initiate discussions with my peers and teachers about a variety of topics, respecting differing viewpoints, actively listening to others, and responding thoughtfully with peer-reviewed evidence that is free of bias. (*Legislation Presentations run throughout year assigned in Unit#1)*

Understandings: Students will understand that... ● The availability of resources is a fundamental driver of species interactions in ecosystems, influencing competition, predation, mutualism, disease dynamics, community structure, and overall ecosystem functioning. ● Terrestrial biomes are large-scale ecological communities characterized by distinct climates, vegetation types, and adapted organisms. They are primarily classified based on climate (temperature and precipitation) and vegetation structure. ● Aquatic biomes encompass diverse ecosystems based on their physical characteristics, including salinity, depth, temperature, and flow. ● The carbon cycle is a dynamic process where carbon moves through these interconnected reservoirs, driven by biological, geological, and physical processes. Human activities, particularly the burning of fossil fuels and deforestation, have significantly altered the carbon cycle, leading to increased CO2 levels in the atmosphere and contributing to global climate change. ● The nitrogen cycle describes the movement of nitrogen through various reservoirs on Earth, involving both biotic (living organisms) and abiotic (non-living) processes. Nitrogen is essential for the synthesis of proteins and nucleic acids in living organisms and plays a critical role in ecosystem functioning. ● The phosphorus cycle describes the movement of phosphorus through the Earth's lithosphere, hydrosphere, and biosphere. Phosphorus is an essential element for life, being a key component of DNA, RNA, ATP (energy currency of cells), and phospholipids (cell membranes). Unlike carbon and nitrogen, phosphorus does not have a significant atmospheric component and primarily cycles through terrestrial and aquatic ecosystems. ● The hydrologic cycle, also known as the water cycle, describes	**Essential Questions:** ● How does the availability of resources influence species interactions? ● Describe the global distribution and principal environmental aspects of terrestrial biomes. ● Describe the global distribution and principal environmental aspects of aquatic biomes. ● Explain the steps and reservoir interactions in the carbon cycle. ● Explain the steps and reservoir interactions in the nitrogen cycle. ● Explain the steps and reservoir interactions in the phosphorus cycle. ● Explain the steps and reservoir interactions in the hydrologic cycle. ● How is solar energy acquired and transferred by living organisms? ● How does energy flow and matter cycle through trophic levels? ● How does the energy decrease as it flows through ecosystems? ● Describe food chains and food webs, and their constituent members by trophic level.

the continuous movement of water on, above, and below the surface of the Earth. It involves various processes that cycle water between different reservoirs, driven primarily by solar energy. ● Solar energy acquisition through photosynthesis is fundamental to life on Earth, supporting biological processes and sustaining ecosystems. ● Energy flows and matter cycles through trophic levels and is crucial for ecosystem management, conservation, and understanding the impacts of human activities on natural systems. Maintaining balanced nutrient cycling and energy flow supports biodiversity and ecosystem resilience in the face of environmental changes. ● Energy decreases as it flows through ecosystems primarily due to inefficiencies in energy conversion, metabolic processes, heat loss, and inefficiencies in energy transfer between trophic levels. ● Food chains and webs provide essential frameworks for understanding the complex interactions and energy flow within ecosystems, highlighting the interconnectedness of organisms and the importance of maintaining balanced trophic relationships for ecosystem health and stability.	
Students will know... ● How to define the field of environmental science and discuss its importance. ● Ways in which humans have altered and continue to alter our environment. ● The scientific method and its application to the study of environmental problems. ● The components and states of matter. ● Human beings depend on sustainable practice. ● Ecosystem boundaries are not clearly defined. ● Photosynthesis captures energy and respiration releases energy. ● Energy captured by producers moves through many trophic levels.	**Students will be able to...** ● Measure sustainability using the ecological footprint. ● Describe some of the unique challenges and limitations of environmental science. ● Describe key environmental indicators that help us evaluate the health of the planet. ● Define systems within the context of environmental science. ● Define sustainability and explain how it can be measured using the ecological footprint. ● Explain the concept of ecosystem boundaries. ● Describe the processes of photosynthesis and cellular respiration. ● Distinguish among the trophic levels that exist in food chains and food webs.

● Some ecosystems are more productive than others. ● The efficiency of energy transfer affects the energy present in each trophic level. ● The hydrologic cycle moves water through the biosphere. ● The carbon cycle moves carbon between air, water and land. ● The nitrogen cycle includes many chemical transformations. ● The phosphorus cycle moves between land and water. ● Calcium, magnesium, potassium and sulfur also cycle in ecosystems. ● Earth's atmosphere is composed of layers. ● The amount of solar energy reaching the Earth varies with location. ● Earth's tilt causes seasonal changes in the climate. ● Terrestrial biomes are defined by the dominant plant growth forms. ● Climate diagrams illustrate patterns of annual temperature and precipitation. ● Terrestrial biomes range from tundra to tropical forests. ● Freshwater biomes have low salinity. ● Marine biomes have high salinity.	● Quantify ecosystem productivity. ● Explain energy transfer efficiency and trophic pyramids. ● Describe how water cycles within ecosystems. ● Explain how carbon cycles within ecosystems. ● Describe how nitrogen cycles within ecosystems. ● Explain how phosphorus cycles within ecosystems. ● Discuss the movement of calcium, magnesium, potassium and sulfur within ecosystems. ● Identify the five layers of the atmosphere. ● Discuss the factors that cause unequal heating of the Earth. ● Describe how the Earth's tilt affects seasonal differences in temperatures. ● Explain how we define terrestrial biomes. ● Interpret climate diagrams. ● Identify the nine terrestrial biomes. ● Identify the major freshwater biomes. ● Identify the major marine biomes.
Key Vocabulary: *Ecosystem, environmentalism, biotic, abiotic, environmental indicator, habitat, niche, predator, prey, symbiotic interactions, competitive interactions, mutualism, commensalism, parasitism, limiting resource, intraspecific competition, interspecific competition, competitive exclusion principle, keystone species, indicator species, range of tolerance, invasive species, resource partitioning, trophic cascade, biodiversity, photosynthesis, cellular respiration, herbivores, omnivores, carnivores, detritivores, decomposers, biomass, consumers, heterotrophs, autotrophs, food chain, food web, food pyramid, atmosphere, biosphere, hydrosphere, lithosphere, source, sink, transpiration, reservoirs, aquifers, urban island heat, carbon cycle, enteric digestion, anthropogenic, vector-borne disease, fracking, nitrogen fixation, ammonification, nitrification, assimilation, denitrification, tilling, nitrogen cycle, phosphorus cycle, eutrophication, photochemical smog, dead zone, biome, tropical rainforest, savannah (tropical grassland), desert, temperate rainforest, temperate grasslands, temperate deciduous forest, coniferous forest (taiga), chaparral, tundra, primary productivity, net primary productivity, gross primary productivity, marsh, swamp, bog, estuary, intertidal, mangroves, watershed, salinity, saltwater intrusion, intertidal zone, pelagic zone, hydrothermal vent, abyssal zone, coral bleaching, bycatch, ocean acidification*	

Assessment Evidence	
Performance Tasks: ● Barnacle Lab & keystone species investigation ● Pond Food Web Activity ● The Water Cycle Lab ● The Carbon Cycle Drawing ● Nitrogen Cycle game and review. ● Phosphorus Cycle diagram ● Human Impact on Aquatic Ecosystems Project	**Other Evidence:** ● Introduction to ecology worksheet ● Fill-in notes ● Biomes of the World Guide ● AP weekly Quizzes ● Study Guide ● AP sample FRQs and MCQs

Learning Plan

VOL Common Assessments:
THINK CRITICALLY AND CREATIVELY
TCC1(9-12): I can ask purposeful, insightful questions to find a variety of innovative solutions.
- Biomes of the World Project

TCC3(9-12): I can integrate relevant information to produce multiple valid solutions.
- Owl Pellet Lab

TCC4: Transfer new learning and skills to other contexts and settings beyond the classroom.
- Owl Pellet Lab

COLLABORATE AND COMMUNICATE EFFECTIVELY
CCE1(9-12): I can initiate discussions with my peers and teachers about a variety of topics, respecting differing viewpoints, actively listening to others, and responding thoughtfully with peer-reviewed evidence that is free of bias.
- Biome Project: Use discussion and debate to determine what qualities fit specific biomes

Teacher Resources:
College Board AP Central: Environmental Science; https://apcentral.collegeboard.org/courses/ap-environmental-science
Environmental Science for the AP Course text 3rd edition by Andrew Friedland and Rick Relyea, 2019
UConn Early College Experience guidelines for Environmental Science; www.ece.uconn.edu

Unit 2 - The Living World: Biodiversity
Desired Results
Established Goals: **Common Core State Standards:** RI.9-10.1: Cite specific textual evidence to support analysis of science and technical texts, attending to the precise details of explanations or descriptions. MP.4: Model with mathematics W.9-10.2: Write informative/explanatory texts to examine and convey complex ideas, concepts, and information clearly and accurately through the effective selection, organization, and analysis of content. HSN-Q.A.2: Define appropriate quantities for the purpose of descriptive modeling. HSS-1C.B.6: Evaluate reports based on data. RST.11-12.8: Evaluate the hypotheses, data, analysis, and conclusions in a science or technical text, verifying the data when possible and corroborating or challenging conclusions with other sources of information HSN-Q.A.1 Use units as a way to understand problems and to guide the solution of multi-step problems; choose and interpret units consistently in formulas; choose and interpret the scale and the origin in graphs and data displays. **NGSS Standards:** HS-LS2-2: Use mathematical representations to support and revise explanations based on evidence about factors affecting biodiversity and populations in ecosystems of different scales. HS-LS2-7: Design, evaluate, and refine a solution for reducing the impacts of human activities on the environment and biodiversity. HS-LS2-6: 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 the conditions may result in a new ecosystem. HS-LS4-5: Evaluate the evidence supporting claims that changes in the environmental conditions may result in: (1) increases in the number of individuals of some species, (2) the emergence of new species over time, and (3) the extinction of other species. HS-LS2-8. Evaluate the evidence for the role of group behavior on individual and species' chances to survive and reproduce. HS-LS4-6. Create or revise a simulation to test a solution to mitigate adverse impacts of human activity on biodiversity. HS-LS3-3. Apply concepts of statistics and probability to explain the variation and distribution of expressed traits in a population. 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 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.
Vision of A Learner Attributes: Students will be able to independently use their learning to...

TCC1(9-12): I can ask purposeful, insightful questions to find a variety of innovative solutions. *(Parking Lot Diversity Lab & Ecosystems Services Project)* TCC2(9-12): I can evaluate evidence from multiple perspectives, and recognize their limitations and implications, in order to justify new conclusions. *(Ecosystems Services Project)* CCE2(9-12): I can give and receive actionable and relevant feedback with openness to be able to determine meaningful revisions for success. TI3(9-12): I can formulate and investigate probing questions to further my learning. *(Ecosystems Services Project)*

Understandings: Students will understand that... ● Biodiversity in an ecosystem includes genetic, species, and habitat diversity and the more genetically diverse a population is, the better it can respond to environmental stressors. ● There are four categories of ecosystem services: provisioning, regulating, cultural, and supporting. Human activities can disrupt these services, potentially resulting in economic and ecological consequences. ● Island biogeography is the study of the ecological relationships and distribution of organisms on islands, and many island species have evolved to be specialists versus generalists because of the limited resources, such as food and territory, on most islands; therefore, invasive species can have an adverse effect on these ecosystems. ● Ecological tolerance refers to the range of conditions, such as temperature, salinity, flow rate, and sunlight that an organism can endure before injury or death results. ● Natural disruptions to ecosystems have environmental consequences that may, for a given occurrence, be as great as, or greater than, many human-made disruptions. ● Organisms adapt to their environment over time, both in short- and long-term scales, via incremental changes at the genetic level. ● Succession in a disturbed ecosystem will affect the total biomass, species richness, and net productivity over time.	**Essential Questions:** ● What are the levels of biodiversity and their importance to ecosystems? ● What are the results of human disruptions to ecosystem services? ● What is the role of island biogeography in evolution? ● What is ecological tolerance? ● How can natural disruptions, both short and long-term, impact an ecosystem? ● How can organisms adapt to their environment? ● What is the effect of ecological succession on ecosystems?
Students will know... ● It is difficult to estimate the number of species on Earth. ● We can measure biodiversity in terms of species richness and species evenness.	**Students will be able to...** ● Understand how we estimate the number of species living on Earth. ● Quantify biodiversity.

- Genetic diversity is created through mutation and recombination. - Evolution can occur through artificial selection. - Evolution can occur through natural selection. - Evolution can also occur through random processes. - Speciation can be allopatric or sympatric. - The pace of evolution depends on several factors. - Every species has a niche. - Environmental change can alter species distribution. - Environmental change can cause species extinctions.	- Identify the processes that cause genetic diversity. - Explain how evolution can occur through artificial selection. - Explain how evolution can occur through natural selection. - Explain how evolution can occur through random processes. - Explain the process of allopatric and sympatric speciation. - Understand the factors that affect the pace of evolution. - Explain the difference between the fundamental and realized niche. - Describe how environmental change can alter species distributions. - Describe how environmental change can cause species extinctions.

Key Vocabulary: Biodiversity, genetic diversity, population bottleneck, species diversity, habitat diversity, specialists, generalists, ecosystem diversity, species richness, species evenness,ecosystem services, provision, aquaculture, island biogeography, species-area curve, ecological tolerance, realized niche, geographic range, mass extinction, periodic disruption, episodic disruption, random disruption, resistance, resilience, intermediate disturbance hypothesis, evolution, microevolution, macroevolution, evolution by artificial selection, evolution by natural selection, fitness, adaptation, evolution by random processes, allopatric speciation, sympatric speciation, genetically modified organisms, ecological succession, primary succession, pioneer species, secondary succession, climax community, keystone species, indicator species, endemic species, biodiversity hotspots.

Assessment Evidence

Performance Tasks: - Parking Lot diversity Lab - Ecosystem services project - Island Biogeography Lab - Human Impact on Biodiversity Activity - Galapagos Finch Beak Lab	**Other Evidence:** - Fill-in notes - Ecological Succession Activity - AP weekly Quizzes - Study Guide - AP sample FRQs and MCQs

Learning Plan

VOL Common Assessments:
THINK CRITICALLY AND CREATIVELY

TCC1(9-12): I can ask purposeful, insightful questions to find a variety of innovative solutions.

- Parking Lot Diversity Lab

TCC2(9-12): I can evaluate evidence from multiple perspectives, and recognize their limitations and implications, in order to justify new conclusions.

- Parking Lot Diversity Lab
- Ecosystem Services Project

TAKE INITIATIVE

TI2(9-12): I can evaluate my objectives and a variety of credible resources to find the best solutions for any challenge.

- Legislation Presentation Project

COLLABORATE AND COMMUNICATE EFFECTIVELY

CCE1(9-12): I can initiate discussions with my peers and teachers about a variety of topics, respecting differing viewpoints, actively listening to others, and responding thoughtfully with peer-reviewed evidence that is free of bias.

- Legislation Presentation Project

CCE4(9-12): I can communicate and express my understanding in an authentic, respectful and relevant way, using the most effective mode of expression.

- Legislation Presentation Project

Teacher Resources:
College Board AP Central: Environmental Science; https://apcentral.collegeboard.org/courses/ap-environmental-science
Environmental Science for the AP Course text 3rd edition by Andrew Friedland and Rick Relyea, 2019
UConn Early College Experience guidelines for Environmental Science; www.ece.uconn.edu

Unit 3 - Populations

Desired Results

Established Goals:
Common Core State Standards:
RI.9-10.1: Cite specific textual evidence to support analysis of science and technical texts, attending to the precise details of explanations or descriptions.
MP.4: Model with mathematics
W.9-10.2: Write informative/explanatory texts to examine and convey complex ideas, concepts, and information clearly and accurately through the effective selection, organization, and analysis of content.
HSN-Q.A.2: Define appropriate quantities for the purpose of descriptive modeling.
HSS-1C.B.6: Evaluate reports based on data.

RST.11-12.8: Evaluate the hypotheses, data, analysis, and conclusions in a science or technical text, verifying the data when possible and corroborating or challenging conclusions with other sources of information

NGSS Standards:

HS-LS2-1. Use mathematical and/or computational representations to support explanations of factors that affect carrying capacity of ecosystems at different scales.

HS-LS2-2. Use mathematical representations to support and revise explanations based on evidence about factors affecting biodiversity and populations in ecosystems of different scales.

HS-ESS3-3. Create a computational simulation to illustrate the relationships among management of natural resources, the sustainability of human populations, and biodiversity.

Vision of A Learner Attributes: Students will be able to independently use their learning to...

TCC1(9-12): I can ask purposeful, insightful questions to find a variety of innovative solutions.

CCE2(9-12): I can give and receive actionable and relevant feedback with openness to be able to determine meaningful revisions for success.

TCC4(9-12): I can integrate my learning to adapt to experiences in the classroom, career and life

Understandings: Students will understand that...

- Specialist species tend to be advantaged in habitats that remain constant, while generalist species tend to be advantaged in habitats that are changing.
- A survivorship curve is a line that displays the relative survival rates of a cohort—a group of individuals of the same age—in a population, from birth to the maximum age reached by any one cohort member. There are Type I, Type II, and Type III curves
- Each environment has a carrying capacity, the maximum number of individuals that can be supported sustainably. This capacity is influenced by the availability of resources and the presence of limiting factors.
- Human activities, including habitat destruction, pollution, and climate change, can profoundly affect populations and communities, leading to biodiversity loss and altered ecosystem functions.
- Total fertility rate (TFR) is affected by the age at which females have their first child, educational opportunities for females, access to family planning, and government acts and policies.
- Populations can grow exponentially under ideal conditions with unlimited resources, leading to rapid increases in population

Essential Questions:

- Identify differences between generalist and specialist species.
- Explain survivorship curves.
- What are the key factors that determine the carrying capacity of an environment for a given species?
- How do changes in population and community ecology affect ecosystem services that are vital to human well-being?
- Explain factors that affect total fertility rate in human populations.
- How do different population growth models (e.g., exponential, logistic) describe the growth patterns of populations, and what factors influence these models?
- How can population pyramids be used to analyze the age distribution and growth trends of a population?
- What are the implications of different age structures (e.g., youthful, stable, declining) for a population's future growth and socio-economic development?
- How do birth rates, death rates, and migration patterns influence population growth and the shape of population pyramids?
- How do environmental conditions influence whether a species is K-selected or r-selected?

size. Populations often exhibit logistic growth when resources are limited, leading to a leveling off of growth as the population reaches the environment's carrying capacity. ● Population pyramids provide a visual representation of the age and sex distribution of a population, allowing for analysis of current demographics and predictions of future trends. ● These rates directly influence population growth and the shape of population pyramids. High birth rates can lead to a youthful population structure, while high death rates can cause a decline in population size. ● Major events like wars, pandemics, and economic shifts can cause significant changes in population growth patterns and demographic structures. ● K-selected species are often found in stable environments where competition and resource availability are constant, allowing them to invest in long-term survival. In contrast, r-selected species thrive in unstable or unpredictable environments where rapid reproduction can exploit temporary opportunities.	
Students will know... ● Nature exists at several levels of complexity. ● Populations have distinctive characteristics. ● Population size is affected by density-dependent and density-independent factors. ● The exponential growth model describes populations that continuously increase. ● The logistic growth model describes populations that experience a carrying capacity. ● Species have different reproductive strategies and distinct survivorship curves. ● K-selected species are often found in stable environments and r-selected species thrive in unstable or unpredictable environments. ● Population pyramids provide a visual representation of the age and sex distribution of a population, allowing for analysis of current demographics and predictions of future trends.	**Students will be able to...** ● Explain how nature exists at several levels of complexity. ● Discuss characteristics of populations. ● Contrast the effects of density-dependent and density-independent factors on population growth. ● Explain the exponential growth models of populations, which produces a J-shaped curve. ● Describe how the logistic growth model incorporates a carrying capacity and produces an S-shaped curve. ● Compare reproductive strategies and survivorship curves of different species. ● Explain the difference between K-selected and r-selected species. ● Explain how population pyramids can be used to analyze the age distribution and growth trends of a population?

Key Vocabulary: *Population growth rate (intrinsic growth rate), biotic potential, K-selected species, carrying capacity, r-selected species, overshoot, dieback, survivorship curve (Types I, II & III), density-dependent factor, density-independent factor, population growth model, fecundity, exponential growth model, J-shaped curve, logistic growth model, S-shaped curve, limiting resource, demography, demographer, immigration, emigration, crude birth rate (CBR), crude death rate (CDR), net migration rate, life expectancy, infant mortality, child mortality, environmental justice, age structure diagram, population pyramid, developing countries, developed countries, population momentum, total fertility rate (FTR), family planning, replacement-level fertility, doubling time, Rule of 70, Theory of demographic transition, IPAT equation*

Assessment Evidence

Performance Tasks:	Other Evidence:
• Introduction to Population Lab • Population Growth Activity Lab • Humans Come and Humans Go: Population Math Practice • Cemetery Lab • A Tale of Two Countries Online Exploration Lab	• Fill-in notes • Population Ecology • AP weekly Quizzes • Study Guide • AP sample FRQs and MCQs

Learning Plan

VOL Common Assessments:
THINK CRITICALLY AND CREATIVELY
TCC2(9-12): I can evaluate evidence from multiple perspectives, and recognize their limitations and implications, in order to justify new conclusions.

- Bubble Survivorship Lab

TCC4(9-12): I can integrate my learning to adapt to experiences in the classroom, career and life.

- ScrAPESbook Article Review
- Bubble Survivorship Lab

CCE2(9-12): I can give and receive actionable and relevant feedback with openness to be able to determine meaningful revisions for success.

- Humans Come & Humans Go Math Practice

Teacher Resources:
College Board AP Central: Environmental Science; https://apcentral.collegeboard.org/courses/ap-environmental-science
Environmental Science for the AP Course text 3rd edition by Andrew Friedland and Rick Relyea, 2019
UConn Early College Experience guidelines for Environmental Science; www.ece.uconn.edu

Unit 4 - Earth Systems and Resources	
Desired Results	
Established Goals: **Common Core State Standards:** RI.9-10.1: Cite specific textual evidence to support analysis of science and technical texts, attending to the precise details of explanations or descriptions. MP.4: Model with mathematics W.9-10.2: Write informative/explanatory texts to examine and convey complex ideas, concepts, and information clearly and accurately through the effective selection, organization, and analysis of content. HSN-Q.A.2: Define appropriate quantities for the purpose of descriptive modeling. HSS-1C.B.6: Evaluate reports based on data. RST.11-12.8: Evaluate the hypotheses, data, analysis, and conclusions in a science or technical text, verifying the data when possible and corroborating or challenging conclusions with other sources of information **NGSS Standards:** HS-ESS1-5. Evaluate evidence of the past and current movements of continental and oceanic crust and the theory of plate tectonics to explain the ages of crustal rocks. HS-ESS2-1. Develop a model to illustrate how Earth's internal and surface processes operate at different spatial and temporal scales to form continental and ocean-floor features. HS-ESS2-2. Analyze geoscience data to make the claim that one change to Earth's surface can create feedbacks that cause changes to other Earth systems. HS-ESS2-3. Develop a model based on evidence of Earth's interior to describe the cycling of matter by thermal convection. HS-ESS2-5. Plan and conduct an investigation of the properties of water and its effects on Earth materials and surface processes. HS-ESS2-4. Use a model to describe how variations in the flow of energy into and out of Earth's systems result in changes in climate. HS-ESS3-5. Analyze geoscience data and the results from global climate models to make an evidence-based forecast of the current rate of global or regional climate change and associated future impacts to Earth systems.	
Vision of A Learner Attributes: Students will be able to independently use their learning to... TCC1(9-12): I can ask purposeful, insightful questions to find a variety of innovative solutions. TCC3(9-12): I can integrate relevant information to produce multiple valid solutions. CCE2(9-12): I can give and receive actionable and relevant feedback with openness to be able to determine meaningful revisions for success. DE2(9-12): I can honor my own feelings and show empathy toward others through my actions.	
Understandings: Students will understand that... ● Maps that show the global distribution of plate boundaries can be used to determine the location of volcanoes, island arcs,	**Essential Questions:** ● What are the geological changes and events that occur at convergent, divergent, and transform plate boundaries?

earthquakes, hot spots, and faults. ● Soils are formed when parent material is weathered, transported, and deposited. Soils are generally categorized by horizons based on their composition and organic material. ● Water holding capacity—the total amount of water soil can hold—varies with different soil types. Water retention contributes to land productivity and fertility of soils. ● The layers of the atmosphere are based on temperature gradients and include the troposphere, stratosphere, mesosphere, thermosphere, and exosphere. ● Global wind patterns primarily result from the most intense solar radiation arriving at the equator, resulting in density differences and the Coriolis effect. ● Characteristics of a given watershed include its area, length, slope, soil, vegetation types, and divides with adjoining watersheds. ● Incoming solar radiation (insolation) is the Earth's main source of energy and is dependent on season and latitude. ● Weather and climate are affected not only by the sun's energy but by geologic and geographic factors, such as mountains and ocean temperature. ● El Niño and La Niña are phenomena associated with changing ocean surface temperatures in the Pacific Ocean. These phenomena can cause global changes to rainfall, wind, and ocean circulation patterns.	● What are the characteristics and formation of soil? ● What are some similarities and differences between properties of different soil types? ● What is the structure and composition of the Earth's atmosphere? ● How can environmental factors result in atmospheric circulation? ● What are the characteristics of a watershed? ● How does the sun's energy affect the Earth's surface? ● How does the Earth's geography affect weather and climate? ● What are the environmental changes and effects that result from El Niño or La Niña events (El Niño–Southern Oscillation)?
Students will know... ● The availability of Earth's resources was determined when the planet was formed. ● The theory of plate tectonics describes the movement of the lithosphere. ● The rock cycle recycles scarce minerals and elements. ● The processes of weathering and erosion contribute to the recycling of elements. ● Soil links the rock cycle and the biosphere. ● The distribution of mineral resources on Earth has social and	**Students will be able to...** ● Describe the formation of Earth and the distribution of critical elements in Earth. ● Define the theory of plate tectonics and discuss its relevance to the study of the environment. ● Describe the rock cycle and discuss its importance in environmental science. ● Understand how weathering and erosion occur and how they contribute to element cycling and soil formation. ● Explain how soil forms and describe its characteristics.

environmental consequences. ● Watersheds are characterized by their area, length, slope, soils, and vegetation. ● Humans impact watersheds by altering water flow and inputting excess nutrients and soil. ● Solar radiation varies due to the Earth's curvature and tilted axis. ● The atmosphere is dominated by nitrogen and oxygen gasses. ● Air circulates in the atmosphere as a result of changing density, water vapor capacity, and temperature. ● Atmospheric convection currents are driven by solar radiation at the equator. ● The Earth's rotation causes the Coriolis effect, which deflects global wind patterns. ● Ocean currents are driven by unequal heating, gravity, wind, salinity, and the location of continents. ● Rain shadows cause mountains to be dry on one side. ● The El Nino-Southern Oscillation is caused by a shit in prevailing winds and ocean currents that alters global weather.	● Describe how humans extract elements and minerals and the social and environmental consequences of these activities. ● Describe the characteristics of a watershed. ● Explain the impacts that humans have on watersheds. ● Explain why the amount of solar radiation varies at latitudes and the seasons. ● Identify the major gasses and layers in Earth's atmosphere. ● Describe how the properties of air determine patterns of air circulation. ● Explain what drives convection currents. ● Explain how the Coriolis effect alters global wind directions. ● Describe how ocean circulation affects weather and global climates. ● Explain how mountains interrupt ocean airflow to cause rain shadows. ● Identify the causes and consequences of El Nino and La Nina events.
Key Vocabulary: *Core, mantle, magma, asthenosphere, lithosphere, plate tectonics, earthquake, hot spot, volcano, tsunami, divergent boundary, seafloor spreading, convergent boundary, subduction, island arc, collision zone, transform boundary, fault, igneous rock, sedimentary rock, metamorphic rock, rock cycle, physical weathering, chemical weathering, acid rain, erosion, parent material, horizon, O horizon, humus, A-horizon (topsoil), E-horizon, B-horizon, C-horizon, porosity, water holding capacity, permeability, cation exchange capacity (CEC), base saturation, watershed, insolation, albedo, troposphere, stratosphere, ozone, mesosphere, thermosphere, exosphere, saturation point, adiabatic cooling, adiabatic heating, latent heat release, atmospheric convection current, Hadley cell, intertropical convergence zone, polar cell, Ferrell cell, Coriolis effect, Gyre, upwelling, Thermohaline circulation, rain shadow, El Nino-Southern Oscillation (ENSO), La Nina, carbon sequestration, aqueducts*	
Assessment Evidence	
Performance Tasks: ● Tectonic Plate Activity ● Soil Lab ● Earth Rotation Lab	**Other Evidence:** ● Quizzes ● Formative assessments - exit slips, classwork ● Class Discussion

● Albedo effect Lab ● Soil Salinization Lab ● Ecological Footprint Lab	

Learning Plan
VOL Common Assessments: TCC1(9-12): I can ask purposeful, insightful questions to find a variety of innovative solutions. ● Soil Lab TCC3(9-12): I can integrate relevant information to produce multiple valid solutions. ● Albedo Effect Lab CCE2(9-12): I can give and receive actionable and relevant feedback with openness to be able to determine meaningful revisions for success. ● Measuring Your Ecological Footprint DE2(9-12): I can honor my own feelings and show empathy toward others through my actions. ● Measuring Your Ecological Footprint
Teacher Resources: *College Board AP Central: Environmental Science; https://apcentral.collegeboard.org/courses/ap-environmental-science* *Environmental Science for the AP Course text 3rd edition by Andrew Friedland and Rick Relyea, 2019* *UConn Early College Experience guidelines for Environmental Science; www.ece.uconn.edu*

Unit 5 - Land and Water Use	
Desired Results	
Established Goals: **Common Core State Standards:** RI.9-10.1: Cite specific textual evidence to support analysis of science and technical texts, attending to the precise details of explanations or descriptions. MP.4: Model with mathematics W.9-10.2: Write informative/explanatory texts to examine and convey complex ideas, concepts, and information clearly and accurately through the effective selection, organization, and analysis of content. WHST.9-12.1 Write arguments focused on discipline-specific content. WHST.9-12.7 Conduct short as well as more sustained research projects to answer a question (including a self-generated question) or solve a problem; narrow or broaden the inquiry when appropriate; synthesize multiple sources on the subject, demonstrating understanding of the subject under investigation HSN-Q.A.2: Define appropriate quantities for the purpose of descriptive modeling. RST.11-12.8: Evaluate the hypotheses, data, analysis, and conclusions in a science or technical text, verifying the data when possible and corroborating or challenging conclusions with other sources of information. **NGSS Standards:** HS-LS2-7. Design, evaluate, and refine a solution for reducing the impacts of human activities on the environment and biodiversity. HS-LS4-6. Create or revise a simulation to test a solution to mitigate adverse impacts of human activity on biodiversity. HS-ESS2-2. Analyze geoscience data to make the claim that one change to Earth's surface can create feedbacks that cause changes to other Earth systems HS-ESS2-5. Plan and conduct an investigation of the properties of water and its effects on Earth materials and surface processes. HS-ESS2-7. Construct an argument based on evidence about the simultaneous coevolution of Earth's systems and life on Earth.	
Vision of A Learner Attributes: Students will be able to independently use their learning to... TCC1(9-12): I can ask purposeful, insightful questions to find a variety of innovative solutions. CCE2(9-12): I can give and receive actionable and relevant feedback with openness to be able to determine meaningful revisions for success. TCC3(9-12): I can integrate relevant information to produce multiple valid solutions. CCE4: Express ideas in a variety of ways, according to context, purpose, and audience.	
Understandings: Students will understand that... ● The tragedy of the commons suggests that individuals will use shared resources in their own self-interest rather than in keeping	**Essential Questions:** ● What is the concept of the tragedy of the commons? ● What is the effect of clearcutting on forests?

with the common good, thereby depleting the resources. ● Clearcutting can be economically advantageous but leads to soil erosion, increased soil and stream temperatures, and flooding. ● The Green Revolution started a shift to new agricultural strategies and practices in order to increase food production, with both positive and negative results. Some of these strategies and methods are mechanization, genetically modified organisms (GMOs), fertilization, irrigation, and the use of pesticides. ● Agricultural practices that can cause environmental damage include tilling, slash and-burn farming, and the use of fertilizers. ● Types of irrigation include drip irrigation, flood irrigation, furrow irrigation, drip irrigation, and spray irrigation. ● Waterlogging occurs when too much water is left to sit in the soil, which raises the water table of groundwater and inhibits plants' ability to absorb oxygen through their roots. ● One consequence of using common pest-control methods such as pesticides, herbicides, fungicides, rodenticides, and insecticides is that organisms can become resistant to them through artificial selection. Pest control decreases crop damage by pests and increases crop yields. ● Methods of meat production include concentrated animal feeding operations (CAFOs), also called feedlots, and free-range grazing. ● Meat production is less efficient than agriculture; it takes approximately 20 times more land to produce the same amount of calories from meat as from plants. ● Overfishing has led to the extreme scarcity of some fish species, which can lessen biodiversity in aquatic systems and harm people who depend on fishing for food and commerce. ● As the more accessible ores are mined to depletion, mining operations are forced to access lower grade ores. Accessing these ores requires increased use of resources that can cause increased waste and pollution. ● Mining wastes include the soil and rocks that are moved to gain access to the ore and the waste, called slag and tailings that remain when the minerals have been removed from the ore. Mining helps to provide low cost energy and material necessary	● What are some changes in agricultural practices? ● What are some agricultural practices that cause environmental damage? ● What are the different methods of irrigation? ● What are the benefits and drawbacks of different methods of irrigation? ● What are the benefits and drawbacks of different methods of pest control? ● What are the different methods of meat production? ● What are the benefits and drawbacks of different methods of meat production? ● What are the causes of and problems related to overfishing? ● What natural resources are extracted through mining? ● What are the ecological and economic impacts of natural resource extraction through mining? ● What are the effects of urbanization on the environment? ● What is measured in an ecological footprint? ● What is the concept of sustainability? ● What are some methods for mitigating problems related to urban runoff? ● What is integrated pest management? ● What are the benefits and drawbacks of integrated pest management (IPM)? ● What are sustainable agricultural and food production practices? ● What are the benefits and drawbacks of aquaculture? ● What are the methods for mitigating human impact on forests?

to make products. The mining of coal can destroy habitats, contaminate groundwater, and release dust particles and methane. ● Urbanization can lead to depletion of resources and saltwater intrusion in the hydrologic cycle. ● Ecological footprints compare resource demands and waste production required for an individual or a society. ● Sustainable yield is the amount of a renewable resource that can be taken without reducing the available supply. ● Methods to increase water infiltration include replacing traditional pavement with permeable pavement, planting trees, increased use of public transportation, and building up, not out. ● Integrated pest management (IPM) is a combination of methods used to effectively control pest species while minimizing the disruption to the environment. These methods include biological, physical, and limited chemical methods such as biocontrol, intercropping, crop rotation, and natural predators of the pests. ● The use of integrated pest management (IPM) reduces the risk that pesticides pose to wildlife, water supplies, and human health. ● The goal of soil conservation is to prevent soil erosion. Different methods of soil conservation include contour plowing, windbreaks, perennial crops, terracing, no-till agriculture, and strip cropping. ● Aquaculture has expanded because it is highly efficient, requires only small areas of water, and requires little fuel. ● Some of the methods for mitigating deforestation include reforestation, using and buying wood harvested by ecologically sustainable forestry techniques, and reusing wood.	
Students will know... ● The Tragedy of Commons describes the harm that can occur to public and shared resources. ● Land management differs in rangeland and forest land management. ● Clear-cutting can adversely impact soils, streams, and	**Students will be able to...** ● Explain the Tragedy of the Commons ● Describe rangeland and forest land management. ● Explain the environmental impact of clear-cutting. ● Describe the changes in agricultural practices that have occurred throughout human civilization.

atmospheric carbon dioxide concentrations. ● Agriculture has undergone a number of transformations over time. ● The Green Revolution led to a greater food production. ● The Green Revolution led to advances in mechanization, fertilization, irrigation, and the use of pesticides. ● Genetic engineering and the introduction of genetically modified organisms are revolutionizing agriculture. ● Mechanization results in the energy subsidy in agriculture. ● Plowing and tilling reverse succession and mobilize organic matter. ● Slash-and-burn farming causes short term gains and long term losses. ● Fertilizer use affects the soil and water. ● Groundwater and surface water are used for irrigation. ● Crop irrigation can be done by furrow, flood, spray, and drip irrigation. ● There are major adverse consequences of irrigation. ● Pesticides reduce pests but have some adverse consequences. ● Organisms can become pesticide resistant. ● Concentrated animal feeding operations and free-range grazing each have their advantages and disadvantages. ● Harvesting fish can result in fishery decline. ● The distribution of mineral resources on Earth has social and environmental consequences. ● Mining impacts our ecosystems and human safety. ● Urbanization is an increase in population density that has many environmental implications. ● A variety of methods can reduce urban runoff. ● The ecological footprint is an environmental impact assessment tool. ● The carbon footprint calculates carbon dioxide emitted into the atmosphere. ● Sustainability is a comprehensive assessment of the environment that includes five global-scale indicators. ● Integrated pest management increases agricultural output while minimizing environmental harm.	● Explain changes that developed as a result of the Green Revolution. ● Identify the benefits and consequences of Green Revolution innovations. ● Identify specific benefits and consequences of GMOs ● Describe the resulting efficiency and fossil fuel impacts of mechanizations. ● Explain how plowing and tilling interfere with the natural progression of ecosystems. ● Identify the consequences of slash-and-burn farming. ● Describe the effects of fertilizer use. ● Describe the sources and locations of water used for irrigation. ● Explain the different types of irrigation. ● Describe how irrigation can cause waterlogging, salinization, and aquifer depletion. ● Identify the advantages and consequences of pest control methods. ● Describe pesticide resistance and the impacts of genetic engineering on crops. ● Describe the benefits and consequences of different meat production methods. ● Describe the cause and consequences of overfishing. ● Describe how natural resources are extracted from the Earth through mining. ● Identify the ecological and economic impacts of mining. ● Explain urbanization and its effects on the environment. ● Describe the methods used to reduce urban runoff. ● Explain the ecological footprint, how to calculate it, and what it tells us. ● Describe the carbon footprint and how it differs from the ecological footprint. ● Explain sustainability and describe some environmental indicators of sustainability. ● Describe the goals and techniques of integrated pest management (IPM). ● Explain the objectives of sustainable agricultural practices. ● Explain the environmental benefits and consequences of

● Sustainable agriculture reduces environmental impact. ● Sustainable forestry will minimize the effects of logging.	aquaculture. ● Describe the methods of reducing human impact on forest tree removal.

Key Vocabulary: *Tragedy of the Commons, externality, rangelands, forest, clear-cutting, selective cutting, ecologically sustainable forestry, tree plantation, Endangered Species Act, subsistence farming, agribusiness, Green Revolution, Economics of scale, organic fertilizer, synthetic fertilizer, waterlogging, salinization, pesticide, insecticide, herbicide, broad-spectrum pesticide, selective pesticide, monocropping, energy subsidy, plowing, tilling, Slash-and-burn agriculture, aquifer, unconfined aquifer, confined aquifer, water table, groundwater recharge, spring, artesian well, water footprint, furrow irrigation, flood irrigation, spray irrigation, drip irrigation, cone of depression, fungicide, rodenticide, persistent pesticides, nonpersistent pesticides, Integrated Pest Management (IPM), pesticide resistance, Concentrated animal feeding operation (CAFO), manure lagoon, free range grazing, nomadic grazing, overgrazing, desertification, fishery, fishery collapse, bycatch, crustal abundance, ore, metal, reserve, strip mining, mine tailings, open-pit mining, mountaintop removal, placer mining, subsurface mining, urbanization, urban area, suburbs, exurbs, saltwater intrusion, impervious surface, urban sprawl, urban blight, Sense of place, urban runoff, ecological footprint, carbon footprint, sustainability, sustainable development, maximum sustainable yield (MSY), environmental indicators, anthropogenic, crop rotation, intercropping, biocontrol, natural predators, sustainable agriculture, soil conservation, agroforestry, windbreaks, strip cropping, contour plowing, terracing, perennial plants, no-till agriculture, green manure, limestone, rotational grazing, organic agriculture, Delaney Clause, reforestation, sustainable forestry, prescribed burn.*

Assessment Evidence

Performance Tasks: ● Forestry Management WebQuest ● Cookie Mining Lab ● Urbanization & Sustainable Urban Planning ● Eating at a Lower Trophic Level	**Other Evidence:** ● Origin of Food

Learning Plan

VOL Common Assessments:
TCC1(9-12): I can ask purposeful, insightful questions to find a variety of innovative solutions.
- Soil Salinization Lab

TCC3(9-12): I can integrate relevant information to produce multiple valid solutions.
- Cookie Mining Lab

CCE2(9-12): I can give and receive actionable and relevant feedback with openness to be able to determine meaningful revisions for success.
- APES Impact Poster Project

CCE4: Express ideas in a variety of ways, according to context, purpose, and audience. ● APES Impact Poster Project
Teacher Resources: *College Board AP Central: Environmental Science; https://apcentral.collegeboard.org/courses/ap-environmental-science* *Environmental Science for the AP Course text 3rd edition by Andrew Friedland and Rick Relyea, 2019* *UConn Early College Experience guidelines for Environmental Science; www.ece.uconn.edu*

Unit 6 - Energy Resources and Consumption
Desired Results
Established Goals: **Common Core State Standards:** MP.4: Model with mathematics MP.2 Reason abstractly and quantitatively. HSN-Q.A.1 Use units as a way to understand problems and to guide the solution of multi-step problems; choose and interpret units consistently in formulas; choose and interpret the scale and the origin in graphs and data displays. WHST.9-12.7 Conduct short as well as more sustained research projects to answer a question (including a self-generated question) or solve a problem; narrow or broaden the inquiry when appropriate; synthesize multiple sources on the subject, demonstrating understanding of the subject under investigation HSN-Q.A.2: Define appropriate quantities for the purpose of descriptive modeling. RST.11-12.8: Evaluate the hypotheses, data, analysis, and conclusions in a science or technical text, verifying the data when possible and corroborating or challenging conclusions with other sources of information. HSN-Q.A.3 Choose a level of accuracy appropriate to limitations on measurement when reporting quantities. **NGSS Standards:** HS-PS3-2. Develop and use models to illustrate that energy at the macroscopic scale can be accounted for as a combination of energy associated with the motions of particles (objects) and energy associated with the relative position of particles (objects). 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. HS-PS4-5. Communicate technical information about how some technological devices use the principles of wave behavior and wave interactions with matter to transmit and capture information and energy. HS-LS1-5. Use a model to illustrate how photosynthesis transforms light energy into stored chemical energy. HS-LS2-4. Use mathematical representations to support claims for the cycling of matter and flow of energy among organisms in an ecosystem. 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. HS-ESS3-2. Evaluate competing design solutions for developing, managing, and utilizing energy and mineral resources based on cost-benefit ratios. HS-ESS3-4. Evaluate or refine a technological solution that reduces impacts of human activities on natural systems.
Vision of A Learner Attributes: Students will be able to independently use their learning to... TCC3(9-12): I can integrate relevant information to produce multiple valid solutions. TCC4(9-12): I can integrate my learning to adapt to experiences in the classroom, career and life. TI4(9-12): I can apply my strengths and anticipate challenges to reach my current and future goals.

Understandings: Students will understand that...	**Essential Questions:**
● Nonrenewable energy sources are those that exist in a fixed amount and involve energy transformation that cannot be easily replaced, but renewable sources can be replenished. ● Availability, price, and governmental regulations influence which energy sources people use and how they use them. ● The most common fuel types are fossil fuels such as natural gas, peat, coal and wood. ● The global distribution of natural energy resources, such as ores, coal, crude oil, and gas, is not uniform and depends on regions' geologic history. ● Humans use a variety of methods to extract fossil fuels from the earth for energy generation which has an environmental impact. ● Nuclear power is generated through fission, where atoms of Uranium-235, which are stored in fuel rods, are split into smaller parts after being struck by a neutron. ● Three Mile Island, Chernobyl, and Fukushima are three cases where accidents or natural disasters led to the release of radiation. These releases have had short- and long-term impacts on the environment. ● Burning of biomass produces heat for energy at a relatively low cost, but it also produces carbon dioxide, carbon monoxide, nitrogen oxides, particulates, and volatile organic compounds. ● Photovoltaic solar cells capture light energy from the sun and transform it directly into electrical energy. Solar energy systems have low environmental impact and produce clean energy, but they can be expensive. ● Moving water can be used to spin a turbine, but construction of the power plants can be expensive, and there may be a loss of or change in habitats. ● Geothermal energy is obtained by using the heat stored in the Earth's interior to heat up water, which is brought back to the surface as steam to use for energy. This is often cost prohibitive or not accessible and may produce hydrogen sulfide. ● Hydrogen fuel cells use hydrogen as fuel, combining the hydrogen and oxygen in the air to form water and release energy (electricity) in the process, but can be too expensive and	● What are the differences between nonrenewable and renewable energy sources? ● What are some trends in energy consumption? ● What are some different types of fuels and their uses? ● Where do natural energy resources occur? ● What are the uses and methods of fossil fuels in power generation and how do they affect the environment? ● How is nuclear energy used in power generation? ● What are the effects of the use of nuclear energy on the environment? ● What are the effects of the use of biomass in power generation on the environment? ● How is solar energy used in power generation and what are the effects on the environment? ● How is hydroelectricity used in power generation and what are the effects on the environment? ● How is geothermal energy used in power generation and what are the effects on the environment? ● How are hydrogen fuel cells used in power generation and what are the effects on the environment? ● How is wind used in power generation and what are the effects on the environment? ● What are some methods for conserving energy?

hydrogen can be dangerous. ● Wind turbines use the kinetic energy of moving air to spin a turbine, which in turn converts the mechanical energy of the turbine into electricity, but they may disrupt birds habitat and can cause noise pollution. ● Methods for conserving energy on a large scale include improving fuel economy for vehicles, using BEVs (battery electric vehicles) and hybrid vehicles, using public transportation, and implementing green building design features.	
Students will know... ● Nonrenewable energy resources are finite and renewable energy resources are infinite. ● Trends in energy use are changing around the world and in the U.S. ● We can use less energy through conservation and increased efficiency. ● The Sun is the ultimate source of many of the fuels that we use. ● Each fuel has specific optimal applications. ● Fossil fuels have specialized uses for motor vehicles and electricity. ● Generation and cogeneration convert fuels to electricity. ● Fossil fuel and ore distribution around the globe depends on the geology of the region. ● Fossil fuels have many advantages and disadvantages. ● Fuel is converted to electricity and releases carbon dioxide and heat energy. ● Nuclear reactors use fission to generate electricity which does not produce carbon dioxide but the small amount of nuclear waste that is generated needs to be stored and any accident in the reactor could be devastating. ● Biomass energy resources are derived from biological material and can displace fossil fuels. ● The energy of the Sun can be captured passively and actively. ● The kinetic energy of water can generate electricity but there are consequences. ● Geothermal energy is using the Earth’s internal heat and	**Students will be able to...** ● Describe nonrenewable and renewable energy resource characteristics. ● Describe the trends of energy use worldwide and in the United States. ● Explain the importance of energy efficiency and conservation. ● Explain the role of the Sun in fuel sources. ● Describe major fuel types and how they are used. ● Identify other uses of fossil fuel. ● Describe electricity generation and cogeneration. ● Explain why fossil fuels and ores are found only in certain locations. ● Describe the advantages and disadvantages of fossil fuels including oil extraction and fracking. ● Describe how fossil fuels are used for electricity generation. ● Explain how nuclear energy is used to generate energy and identify some advantages and disadvantages of its use. ● Explain the positive and negative consequences of biomass energy resources. ● Describe the various types of solar energy systems. ● Explain how hydroelectric power is generated and describe its environmental effects. ● Explain how humans harness geothermal energy. ● Describe the hydrogen fuel cell and its potential for providing electricity. ● Describe the benefits and impacts of wind energy. ● Explain the methods of conserving energy.

transferring it to water to use for heating or electricity generation. ● Hydrogen fuel cells use hydrogen as an energy source and are almost pollution free. ● Wind energy is the most rapidly growing source of electricity. ● We can use less, and use different technologies to conserve energy.	
Key Vocabulary: *Fossil fuels, nonrenewable energy resource, renewable energy resource, potentially renewable, nondepletable, commercial energy resources, subsistence energy resources, energy intensity, fossil fuel combustion, Hubbert curve, Peak oil, energy conservation, energy efficiency, energy return on energy investment (EROEI), biofuel, modern carbon, fossil carbon, carbon neutral, coal, peat, lignite, bituminous coal, anthracite, natural gas, crude oil, tar sands, energy carrier, combined cycle, capacity, capacity factor, cogeneration, fracking, Volatile organic compounds (VOCs), turbine, electrical grid, energy quality, nuclear power, radioactivity, fission, fuel rod, control rod, radioactive decay, half-life, radioactive waste, Becquerel (Bq), curie, biomass, charcoal, particulates, carbon monoxide, nitrogen oxides, carbon dioxide, biofuel, ethanol, biodiesel, passive solar, active solar energy, photovoltaic solar cells, hydroelectricity, water impoundment, run-of-the-river, tidal energy, siltation, geothermal energy, ground source heat pump, fuel cells, electrolysis, wind energy, wind turbine, phantom loads, peak demand, passive solar design, thermal mass smart grid, oxygenated fuel, cellulosic ethanol*	
Assessment Evidence	
Performance Tasks: ● Personal Energy Use Audit ● Nuclear Decay Lab ● Ohmani Energy Project	**Other Evidence:** ● Energy Math Practice ● Carbon Neutrality Game ● Radioactive Wolves Case
Learning Plan	
VOL Common Assessments: TCC3(9-12): I can integrate relevant information to produce multiple valid solutions. ● Ohmani Energy Project TCC4(9-12): I can integrate my learning to adapt to experiences in the classroom, career and life. ● Personal Energy Use Audit TI4(9-12): I can apply my strengths and anticipate challenges to reach my current and future goals. ● Personal Energy Use Audit	

Teacher Resources: *College Board AP Central: Environmental Science; https://apcentral.collegeboard.org/courses/ap-environmental-science* *Environmental Science for the AP Course text 3rd edition by Andrew Friedland and Rick Relyea, 2019* *UConn Early College Experience guidelines for Environmental Science; www.ece.uconn.edu*

Unit 7 - Atmospheric Pollution	
Desired Results	
Established Goals: [Common Core State Standards:] MP.4: Model with mathematics MP.2 Reason abstractly and quantitatively. HSN-Q.A.1 Use units as a way to understand problems and to guide the solution of multi-step problems; choose and interpret units consistently in formulas; choose and interpret the scale and the origin in graphs and data displays. HSN-Q.A.2: Define appropriate quantities for the purpose of descriptive modeling. RST.11-12.8: Evaluate the hypotheses, data, analysis, and conclusions in a science or technical text, verifying the data when possible and corroborating or challenging conclusions with other sources of information. HSN-Q.A.3 Choose a level of accuracy appropriate to limitations on measurement when reporting quantities. [NGSS Standards:] 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. HS-ESS3-4. Evaluate or refine a technological solution that reduces impacts of human activities on natural systems. HS-ETS1-1. Analyze a major global challenge to specify qualitative and quantitative criteria and constraints for solutions that account for societal needs and wants. HS-ETS1-2. Design a solution to a complex real-world problem by breaking it down into smaller, more manageable problems that can be solved through engineering. HS-ETS1-3. Evaluate a solution to a complex real-world problem based on prioritized criteria and trade-offs that account for a range of constraints, including cost, safety, reliability, and aesthetics, as well as possible social, cultural, and environmental impacts.	
Vision of A Learner Attributes: Students will be able to independently use their learning to... TCC1(9-12): I can ask purposeful, insightful questions to find a variety of innovative solutions. CCE2(9-12): I can give and receive actionable and relevant feedback with openness to be able to determine meaningful revisions for success. TCC3(9-12): I can integrate relevant information to produce multiple valid solutions. TCC4(9-12): I can integrate my learning to adapt to experiences in the classroom, career and life. CCE4(9-12): I can communicate and express my understanding in an authentic, respectful and relevant way, using the most effective mode of expression. CCE1(9-12): I can initiate discussions with my peers and teachers about a variety of topics, respecting differing viewpoints, actively listening to others, and responding thoughtfully with peer-reviewed evidence that is free of bias.	
Understandings: Students will understand that...	**Essential Questions:**

- The combustion of fossil fuels releases air pollutants into the atmosphere. Air pollutants can be primary or secondary pollutants. - Many environmental factors affect the formation of photochemical smog, which is when nitrogen oxides and volatile organic hydrocarbons react with heat and sunlight to produce a variety of pollutants. - During a thermal inversion, the normal temperature gradient in the atmosphere is altered as the air temperature at the Earth's surface is cooler than the air at higher altitudes and it may trap pollution close to the ground, especially smog and particulates. - CO2 appears naturally in the atmosphere from sources such as respiration, decomposition, and volcanic eruptions. - Indoor air pollutants can be classified as particulates, natural source pollutants, or human-made indoor air pollutants. - Methods to reduce air pollutants include regulatory practices, conservation practices, and alternative fuels. - Acid rain and deposition is due to nitrogen oxides and sulfur oxides from anthropogenic and natural sources in the atmosphere and can lead to the acidification of soils and bodies of water and corrosion of human-made structures. - Noise pollution is sound at levels high enough to cause physiological stress and the effects of noise pollution on animals in ecological systems include stress, the masking of sounds used to communicate or hunt, damaged hearing, and causing changes to migratory routes.	- What are the sources and effects of air pollutants? - What are the causes and effects of photochemical smog and methods to reduce it? - What is thermal inversion and its relationship with pollution? - What are some natural sources of CO2 and particulates? - What are indoor air pollutants? - How can air pollutants be reduced at the source? - What is acid rain and what are the effects of acid deposition on the environment? - What human activities result in noise pollution and how do they affect the environment?
Students will know... - Air pollution sources are widespread and their effects vary. - Primary (originates at source) and secondary (have been transformed to pollutants by another resource) pollutants have decreased over time. - Photochemical smog is a complex combination of compounds and it can be reduced by decreasing emissions of its precursors. - Thermal inversions trap air pollutants close to the Earth's surface. - Volcanoes, forest fires, respiration, and decomposition are	**Students will be able to...** - Identify the sources and effects of major air pollutants. - Describe primary and secondary pollutants and how they change over time. - Explain photochemical smog and how to reduce it. - Describe thermal inversions and how they relate to air pollution. - Describe the natural sources of particulates and CO_2 - Identify the major indoor air pollutants and where they come from. - Describe indoor air pollution differences in the developing and

natural processes responsible for particulate emissions and carbon dioxide. ● Indoor air pollutants come from natural, human-made, and combustion sources. ● Indoor air pollution in the developing world comes mostly from indoor combustion while in the developed world tightly sealed buildings and VOCs are a bigger problem. ● Air pollution can be controlled by prevention, conservation, fuel switching, and regulatory practices. ● Control devices convert pollutants to less harmful compounds or remove them from the exhaust stream. ● Acid rain is acidified precipitation derived from air pollutants, which adversely affects terrestrial and aquatic systems and buildings. ● Noise pollution in the air can affect human health and behavior; noise pollution in water may interfere with animal communication.	developed world. ● Explain how air pollutants can be reduced. ● Describe the various air pollution control devices and how they are used. ● Describe acid rain and its effects. ● Explain the sources and effects of noise pollution.
Key Vocabulary: *Air pollution, sulfur dioxide, haze, photochemical oxidant, smog, lead, hydrocarbons, primary pollutant, secondary pollutant, photochemical smog (brown smog L.A.), sulfurous smog (gray smog), evaporate, sublimate, formaldehyde, thermal inversion, inversion layer, PM_{10}, $PM_{2.5}$, indoor air pollutants, asbestos, radon-222, Sick building syndrome, vapor recovery nozzle, catalytic converter, scrubber, electrostatic precipitator, pH, acid, base, acid rain, noise pollution, decibel A scale (dbA).*	
Assessment Evidence	
Performance Tasks: ● Airborne Particulate Lab ● Photochemical Smog & Thermal Inversion Lab ● Car Use Audit	**Other Evidence:** ● Open Note AP Quiz ● Practice Math for AP Test ● FRQ practice and corrections
Learning Plan	
VOL Common Assessments: TCC1(9-12): I can ask purposeful, insightful questions to find a variety of innovative solutions.	

• Photochemical Smog & Thermal Inversion Lab TCC3(9-12): I can integrate relevant information to produce multiple valid solutions. • Airborne Particulate Lab TCC4(9-12): I can integrate my learning to adapt to experiences in the classroom, career and life. • Photochemical Smog & Thermal Inversion Lab • Airborne Particulate Lab CCE4(9-12): I can communicate and express my understanding in an authentic, respectful and relevant way, using the most effective mode of expression. • Car Use Audit CCE1(9-12): I can initiate discussions with my peers and teachers about a variety of topics, respecting differing viewpoints, actively listening to others, and responding thoughtfully with peer-reviewed evidence that is free of bias. • Car Use Audit
Teacher Resources: *College Board AP Central: Environmental Science; https://apcentral.collegeboard.org/courses/ap-environmental-science* *Environmental Science for the AP Course text 3rd edition by Andrew Friedland and Rick Relyea, 2019* *UConn Early College Experience guidelines for Environmental Science; www.ece.uconn.edu*

Unit 8 - Aquatic and Terrestrial Pollution	
Desired Results	
Established Goals: **[Common Core State Standards:]** RI.9-10.1: Cite specific textual evidence to support analysis of science and technical texts, attending to the precise details of explanations or descriptions. MP.4: Model with mathematics W.9-10.2: Write informative/explanatory texts to examine and convey complex ideas, concepts, and information clearly and accurately through the effective selection, organization, and analysis of content. WHST.9-12.1 Write arguments focused on discipline-specific content. WHST.9-12.7 Conduct short as well as more sustained research projects to answer a question (including a self-generated question) or solve a problem; narrow or broaden the inquiry when appropriate; synthesize multiple sources on the subject, demonstrating understanding of the subject under investigation HSN-Q.A.2: Define appropriate quantities for the purpose of descriptive modeling. RST.11-12.8: Evaluate the hypotheses, data, analysis, and conclusions in a science or technical text, verifying the data when possible and corroborating or challenging conclusions with other sources of information. **[NGSS Standards:]** HS-LS2-7. Design, evaluate, and refine a solution for reducing the impacts of human activities on the environment and biodiversity. HS-LS4-6. Create or revise a simulation to test a solution to mitigate adverse impacts of human activity on biodiversity. HS-ESS2-2. Analyze geoscience data to make the claim that one change to Earth's surface can create feedbacks that cause changes to other Earth systems HS-ESS2-5. Plan and conduct an investigation of the properties of water and its effects on Earth materials and surface processes. HS-ESS2-7. Construct an argument based on evidence about the simultaneous coevolution of Earth's systems and life on Earth.	
Vision of A Learner Attributes: Students will be able to independently use their learning to... TCC1(9-12): I can ask purposeful, insightful questions to find a variety of innovative solutions. CCE2(9-12): I can give and receive actionable and relevant feedback with openness to be able to determine meaningful revisions for success. TCC3(9-12): I can integrate relevant information to produce multiple valid solutions.	
Understandings: Students will understand that... • A point source refers to a single, identifiable source of a pollutant, and nonpoint sources of pollution are diffused and can therefore be difficult to identify.	**Essential Questions:** • What are the differences between point and nonpoint sources of pollution? • What are the impacts of human activities on aquatic

• Organisms have a range of tolerance for various pollutants. Organisms have an optimum range for each factor where they can maintain homeostasis. Outside of this range, organisms may experience physiological stress, limited growth, reduced reproduction, and in extreme cases, death. • Endocrine disruptors are chemicals that can interfere with the endocrine system of animals and they can lead to birth defects, developmental disorders, and gender imbalances in fish and other species. • Threats to wetlands and mangroves include commercial development, dam construction, overfishing, and pollutants from agriculture and industrial waste. • The increase in nutrients in eutrophic aquatic environments causes an algal bloom. When the algal bloom dies, microbes digest the algae, along with the oxygen in the water, leading to a decrease in the dissolved oxygen levels in the water • Thermal pollution occurs when heat released into the water produces negative effects to the organisms in that ecosystem. • Persistent organic pollutants (POPs) do not easily break down in the environment because they are synthetic, carbon-based molecules (such as DDT and PCBs). • Bioaccumulation is the selective absorption and concentration of elements or compounds by cells in a living organism, and biomagnification is the increase in concentration of substances per unit of body tissue that occurs in successively higher trophic levels of a food chain or in a food web. • Solid waste is any discarded material that is not a liquid or gas and factors in landfill decomposition include the composition of the trash and conditions needed for microbial decomposition of the waste. • Recycling is a process by which certain solid waste materials are processed and converted into new products. • Prior to discharge, the treated water is exposed to one or more disinfectants (usually, chlorine, ozone, or UV light) to kill bacteria. • Lethal dose 50% (LD50) is the dose of a chemical that is lethal to 50% of the population of a particular species.	ecosystems? • What are endocrine disruptors and what are the effects of endocrine disruptors on ecosystems? • What are the impacts of human activity on wetlands and mangroves? • What are the environmental effects of excessive use of fertilizers and detergents on aquatic ecosystems? • What are the effects of thermal pollution on aquatic ecosystems? • What are the effects of persistent organic pollutants (POPs) on ecosystems? • What are bioaccumulation and biomagnification? • What are solid waste disposal methods and what are the effects of solid waste disposal methods? • What are some changes to current practices that could reduce the amount of generated waste and their associated benefits and drawbacks? • What are the best practices in sewage treatment? • What is the lethal dose 50% (LD50)? • What are dose response curves? • What are some sources of human health issues that are linked to pollution? • How do human pathogens cycle through the environment?

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- A dose response curve describes the effect on an organism or mortality rate in a population based on the dose of a particular toxin or drug.
- It can be difficult to establish a cause and effect between pollutants and human health issues because humans experience exposure to a variety of chemicals and pollutants.
- Pathogens adapt to take advantage of new opportunities to infect and spread through human populations.

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Students will know...

- Point sources of pollution have single locations while nonpoint sources have diffuse locations.
- Organisms differ in their tolerance to various pollutants.
- Chemical pollutants include heavy metals and synthetic compounds that are produced naturally and by human activities.
- Chemical pollutant impacts can be categorized as neurotoxins, carcinogens, teratogens, allergens, or endocrine disruptors.
- Oil pollution comes from multiple sources.
- Humans are altering the availability of water by controlling its movements and they are converting some salt water into fresh water by desalination.
- Humans are impacting wetlands and mangroves through development, dams, overfishing and pollutants.
- Aquatic systems are being harmed by eutrophication and sediment inputs.
- Thermal pollution comes from warming water bodies while noise pollution comes from human sounds.
- Some chemicals can persist in nature and harm ecosystems for years.
- Concentrations of chemicals experienced by organisms depend on routes of exposure and solubility.
- Bioaccumulation and biomagnification can dramatically increase the concentration of a chemical in organisms by storing them in fat.
- Solid waste pollution has increased over time from residences, businesses, industries, and agricultural activities.
- Landfills are the primary destination for municipal solid waste.

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Students will be able to...

- Identify the difference between point and nonpoint sources of pollution.
- Explain why species differ in their tolerance of pollutants.
- Identify the major groups of chemical pollutants and where they come from.
- Describe the impacts of chemical pollutants.
- Identify the source of oil pollutants.
- Describe the human impacts on water availability.
- Explain the human impacts on wetlands and mangroves.
- Explain the causes and consequences of eutrophication and sediments.
- Describe the sources of thermal and noise pollution.
- Describe how persistent organic pollutants affect ecosystems.
- Explain how routes of exposure and solubility determine the concentrations of chemicals that organisms experience.
- Explain how bioaccumulation and biomagnification can increase concentrations of chemicals in organisms.
- Describe how solid waste production has changed over time and identify the sources.
- Explain how landfills are used to dispose of municipal solid waste.
- Describe how incineration is used to dispose of municipal solid waste.
- Explain why some municipal solid waste does not got to landfills or incinerators.
- Identify how hazardous waste is safely disposed of.
- Describe the three R’s that divert materials from the waste

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● Incinerators reduce solid waste by burning it. ● A lot of solid waste ends up in the ocean. ● Hazardous waste requires proper handling and disposal. ● The three R's: reduce, reuse, recycle. ● Composting reduces food and yard trimmings in the waste stream and enhances soil quality. ● New ways to think about municipal solid waste. ● Wastewater pollution is caused by oxygen demand, nutrient release, and disease-causing organisms. ● We have modern technologies used to treat wastewater. ● Scientists can determine the concentrations of chemicals that harm organisms by using dose-response curves. ● We can estimate potential harm by using risk assessment, risk acceptance and risk management. ● Worldwide standards of risk are guided by two different philosophies. ● We can establish cause and effect between pollutants and human health using retrospective and prospective studies. ● Human diseases can be infectious or noninfectious. ● Many pathogens have been historically important. ● Emergent infectious diseases pose new risks to humans. ● Laws exist to protect human health from pollutants and pathogens.	stream. ● Explain how composting reduces materials entering the waste stream. ● Explain how life-cycle analysis and integrated waste management reduce municipal solid waste. ● Describe the three major problems caused by wastewater pollution. ● Explain how we treat wastewater to prevent pollution. ● Explain how dose-response curves are used to estimate lethal doses of chemicals. ● Identify how we estimate potential harm of chemicals in the environment. ● Describe the major philosophies of regulating chemicals in the environment. ● Describe how we establish cause and effect between pollutants and human health. ● Describe the different types of human diseases. ● Identify historic human pathogens that have cycled through the environment. ● Identify the major emergent infectious diseases in humans. ● Identify the laws that protect human health from pollutants and pathogens.
Key Vocabulary: *Point source, nonpoint source, homeostasis, polychlorinated biphenyls (PCBs), neurotoxin, carcinogen, mutagen, teratogen, allergen, endocrine disruptor, wastewater, levee, dikes, dam, reservoir, fish ladder, desalination, distillation, reverse osmosis, eutrophication, oxygen sag curve, thermal pollution, thermal shock, persistence, persistence organic pollutants (POPs), route of exposure, solubility, bioaccumulation, biomagnification, solid waste, municipal solid waste (MSW), waste stream, leachate, sanitary landfill, tipping fee, incineration, ash, waste-to-energy, hazardous waste, Superfund Act, Brownfields, Reduce, Reuse, Recycle, source reduction, closed-loop recycling, open-loop recycling, composting, life-cycle analysis (cradle-to-grave), integrated waste management, biochemical oxygen demand (BOD), cultural eutrophication, fecal coliform bacteria, septic system, septic tank, sludge, septage, leach field, dose-response study, acute study, chronic study,* LD_{50}*, sublethal effect,* ED_{50}*, no-observed-effect level (NOEL), environmental hazard, Innocent-until-proven-guilty, precautionary principle, Stockholm convention, REACH, retrospective study, prospective study, synergistic interaction, disease, infectious disease, acute disease, chronic disease, epidemic, pandemic, dysentery, plague, malaria, tuberculosis, emergent infectious disease, Acquired Immune Deficiency Syndrome, Human Immunodeficiency Virus, Ebola hemorrhagic fever, Mad Cow disease, prion, swine flu, bird flu, severe acute respiratory syndrome (SARS), MERS-CoV, SARS-CoV-2, West Nile virus, Lyme disease, Zika virus disease, Clean Water Act, Dafe Drinking Water Act, Maximum contaminant level (MCL).*	

Assessment Evidence	
Performance Tasks: ● *Oil Spill Lab* ● *Biomagnification Lab* ● *Water Quality Lab*	**Other Evidence:** ● LD50 Lab ● Waste-free World: The Story of Stuff ● Wastewater Treatment Activity or visit

Learning Plan

VOL Common Assessments:
TCC1(9-12): I can ask purposeful, insightful questions to find a variety of innovative solutions.

- Oil Spill Lab

TCC2(9-12): I can evaluate evidence from multiple perspectives, and recognize their limitations and implications, in order to justify new conclusions.

- Water Quality Lab

TCC3(9-12): I can integrate relevant information to produce multiple valid solutions.

- Biomagnification Lab

CCE2(9-12): I can give and receive actionable and relevant feedback with openness to be able to determine meaningful revisions for success.

- Biomagnification Lab

Teacher Resources:
College Board AP Central: Environmental Science; https://apcentral.collegeboard.org/courses/ap-environmental-science
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UConn Early College Experience guidelines for Environmental Science; www.ece.uconn.edu

Unit 9 - Global Change

Desired Results

Established Goals:
Common Core State Standards:
MP.4: Model with mathematics
MP.2 Reason abstractly and quantitatively.
HSN-Q.A.3 Choose a level of accuracy appropriate to limitations on measurement when reporting quantities.
RST.11-12.1 Cite specific textual evidence to support analysis of science and technical texts, attending to important distinctions the author makes and to any gaps or inconsistencies in the account. (
NGSS Standards:
HS-ESS2-4. Use a model to describe how variations in the flow of energy into and out of Earth's systems result in changes in climate.
HS-ESS3-5. Analyze geoscience data and the results from global climate models to make an evidence-based forecast of the current rate of global or regional climate change and associated future impacts to Earth systems.
HS-ESS3-1. Construct an explanation based on evidence for how the availability of natural resources, occurrence of natural hazards, and changes in climate have influenced human activity.
HS-ESS3-4. Evaluate or refine a technological solution that reduces impacts of human activities on natural systems.
HS-ESS3-6. Use a computational representation to illustrate the relationships among Earth systems and how those relationships are being modified due to human activity.

Vision of A Learner Attributes: Students will be able to independently use their learning to...
AA4(9-12): I can create opportunities to extend my learning by remaining open-minded in any situation.
TCC1(9-12): I can ask purposeful, insightful questions to find a variety of innovative solutions.
CCE2(9-12): I can give and receive actionable and relevant feedback with openness to be able to determine meaningful revisions for success.
TCC3(9-12): I can integrate relevant information to produce multiple valid solutions.

Understandings: Students will understand that...
- The stratospheric ozone layer is important to the evolution of life on Earth and the continued health and survival of life on Earth because a decrease in stratospheric ozone increases the UV rays that reach the Earth's surface..
- Ozone depletion can be mitigated by replacing ozone-depleting chemicals with substitutes that do not deplete the ozone layer. Hydrofluorocarbons (HFCs) are one such replacement, but some are strong greenhouse gasses.

Essential Questions:
- Why is stratospheric ozone important to life on Earth?
- What are chemicals used to substitute for chlorofluorocarbons (CFCs)?
- What are greenhouse gasses and the sources and potency of them?
- What are the threats to human health and the environment posed by an increase in greenhouse gasses?
- How can changes in climate cause both short- and long term,

● The principal greenhouse gasses are carbon dioxide, methane, water vapor, nitrous oxide, and chlorofluorocarbons (CFCs). Carbon dioxide is used as a reference point for the comparison of different greenhouse gasses. ● Global climate change, caused by excess greenhouse gases in the atmosphere, can lead to a variety of environmental problems including rising sea levels resulting from melting ice sheets and ocean water expansion, and disease vectors spreading from the tropics toward the poles. These problems can lead to changes in population dynamics and population movements in response. ● Effects of climate change include rising temperatures, melting permafrost and sea ice, rising sea levels, and displacement of coastal populations. ● Ocean warming is caused by the increase in greenhouse gasses in the atmosphere and can affect marine species in a variety of ways, including loss of habitat, and metabolic and reproductive changes. ● Ocean acidification is the decrease in pH of the oceans, primarily due to increased CO2 concentrations in the atmosphere, and can be expressed as chemical equations. ● Invasive species are often generalist, r-selected species and therefore may outcompete native species for resources and they can be controlled through a variety of human interventions. ● A variety of factors can lead to a species becoming threatened with extinction, such as being extensively hunted, having limited diet, being outcompeted by invasive species, or having specific and limited habitat requirements. Strategies to protect animal populations include criminalizing poaching, protecting animal habitats, and legislation. ● Global climate change can cause habitat loss via changes in temperature, precipitation, and sea level rise. Some ways humans can mitigate the impact of loss of biodiversity include creating protected areas, use of habitat corridors, promoting sustainable land use practices, and restoring lost habitats.	impact ecosystems? ● What are the causes and effects of ocean warming? ● What are the causes and effects of ocean acidification? ● What are the environmental problems associated with invasive species and strategies to control them? ● How do species become endangered and what are strategies used to combat the problem? ● How are human activities affecting biodiversity and what are some strategies to combat the problem?
Students will know... ● Stratospheric ozone is beneficial to the health and survival of life	**Students will be able to...** ● Explain how stratospheric ozone forms and the benefits it

on Earth. ● Humans have depleted the ozone layer through the use of CFCs. ● Nations around the world have agreed to reduce CFC production to reduce ozone depletion. ● Global change includes global climate change and global warming. ● Solar radiation and greenhouse gasses make our planet warm. ● Sources of greenhouse gasses are both natural and anthropogenic. ● CO_2 concentrations have increased for the past 7 decades. ● Global temperatures and greenhouse gasses have dramatically increased over the past two centuries. ● Global climate change is causing ice to melt and sea levels to rise. ● Global climate change is affecting the timing and performance of plants and animals. ● Ocean warming is affecting a variety of marine species. ● Increasing CO_2 concentrations are causing ocean acidification. ● International agreements include the Kyoto Protocol and the Paris Agreement. ● Invasive species can negatively impact native species, ecosystems, and human activities. ● Plants and animals are becoming endangered due to human activities. ● Human activities are causing declines in genetic biodiversity. ● Declining biodiversity has a wide variety of causes. ● To conserve biodiversity, we need to reduce threats.	provides. ● Identify the cause of depleted stratospheric ozone. ● Describe efforts made to reduce ozone depletion. ● Describe how we can distinguish between global change, global climate change, and global warming. ● Explain the process underlying the greenhouse effect. ● Identify the sources of greenhouse gasses. ● Explain how CO_2 concentrations have changed over the past 7 decades. ● Describe how temperatures and greenhouse gasses have varied historically. ● Describe how global climate change has affected the environment. ● Explain how global climate change is affecting populations. ● Describe how ocean warming is altering ocean ecosystems. ● Explain how climate change affects ocean pH. ● Explain the international agreements on global climate change. ● Identify the threats posed by invasive species. ● Describe why species are becoming endangered. ● Identify how human activities are affecting genetic biodiversity. ● Explain the causes of declining biodiversity. ● Identify how we can conserve biodiversity.
Key Vocabulary: *Chlorofluorocarbons (CFCs), Montreal Protocol, Global change, global climate change, Greenhouse effect, Greenhouse warming potential (GWP), ocean acidification, Kyoto Protocol, Paris Climate Agreement, Endangered species, Lacey Act, Marine Mammal Protection Act, Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES)*	
Assessment Evidence	
Performance Tasks:	**Other Evidence:**

• Exploration of Coral Bleaching STEM Activity • Stratospheric Ozone Activity	• Endangered Species Project • Infectious Disease Pamphlet

Learning Plan
VOL Common Assessments: AA4(9-12): I can create opportunities to extend my learning by remaining open-minded in any situation. • Exploration of Coral Bleaching STEM Activity TCC1(9-12): I can ask purposeful, insightful questions to find a variety of innovative solutions. • Stratospheric Ozone Activity TCC3(9-12): I can integrate relevant information to produce multiple valid solutions. • Exploration of Coral Bleaching STEM Activity
Teacher Resources: *College Board AP Central: Environmental Science; https://apcentral.collegeboard.org/courses/ap-environmental-science* *Environmental Science for the AP Course text 3rd edition by Andrew Friedland and Rick Relyea, 2019* *UConn Early College Experience guidelines for Environmental Science; www.ece.uconn.edu*

Post AP exam - ECE Final Unit	
Desired Results - Students will recognize the benefits and consequences of human activity on the environment.	
Established Goals: **Common Core State Standards:** RI.9-10.1: Cite specific textual evidence to support analysis of science and technical texts, attending to the precise details of explanations or descriptions. MP.4: Model with mathematics W.9-10.2: Write informative/explanatory texts to examine and convey complex ideas, concepts, and information clearly and accurately through the effective selection, organization, and analysis of content. HSN-Q.A.2: Define appropriate quantities for the purpose of descriptive modeling. HSS-1C.B.6: Evaluate reports based on data. RST.11-12.8: Evaluate the hypotheses, data, analysis, and conclusions in a science or technical text, verifying the data when possible and corroborating or challenging conclusions with other sources of information **NGSS Standards:** HS-LS2-4: Use mathematical representations to support claims for the cycling of matter and flow of energy among organisms in an ecosystem. HS-LS2-6: 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 the conditions may result in a new ecosystem. HS-LS4-5: Evaluate the evidence supporting claims that changes in the environmental conditions may result in: (1) increases in the number of individuals of some species, (2) the emergence of new species over time, and (3) the extinction of other species. HS-ESS3-1. Construct an explanation based on evidence for how the availability of natural resources, occurrence of natural hazards, and changes in climate have influenced human activity. HS-ESS3-4. Evaluate or refine a technological solution that reduces impacts of human activities on natural systems.	
Vision of A Learner Attributes: Students will be able to independently use their learning to... AA4(9-12): I can create opportunities to extend my learning by remaining open-minded in any situation. TCC1(9-12): I can ask purposeful, insightful questions to find a variety of innovative solutions. CCE2(9-12): I can give and receive actionable and relevant feedback with openness to be able to determine meaningful revisions for success. TCC3(9-12): I can integrate relevant information to produce multiple valid solutions.	
Understandings: Students will understand that... ● Invasive species are located in Connecticut and are out-competing some native species. ● Infectious diseases are becoming more prevalent due to climate	**Essential Questions:** ● Is there a local impact from invasive species? ● What are some infectious diseases and how does the environment affect the overall impact of them?

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● Every item that we purchase has an environmental impact from "cradle to grave" and should be considered.</td><td>● What is the total environmental cost of things that we purchase?</td></tr>
<tr><td>Students will know...
● what invasive species are located in the U.S.
● what infectious diseases are on the rise due to environmental changes or issues.
● what their personal impact is on the environment.
● what environmental cost the production of things we want has.</td><td>Students will be able to...
● identify local invasive species.
● identify infectious diseases that are affected by changes in the environment.
● determine their ecological footprint.
● determine if the environmental cost of "things" is worth it.</td></tr>
<tr><td colspan="2">Key Vocabulary: Invasive species, infectious diseases, ecological footprint.</td></tr>
<tr><th colspan="2">Assessment Evidence</th></tr>
<tr><td>Performance Tasks:
● Environmental Scavenger Hunt: Students will explore the area on the Nonnewaug High School campus to identify something found in nature and then offer an explanation or connection to an environmental science theme or topic.
● ECE UConn Final Exam Poster Project: Students will choose an item that they utilize and enjoy and trace the environmental impact of that item from creation to disposal.</td><td>Other Evidence: (To vary year to year)
● Invasive species Wanted Poster
● Infectious Disease Flyer
● Endangered Species Pamphlet
● Natural Areas Project</td></tr>
<tr><th colspan="2">Learning Plan</th></tr>
<tr><td colspan="2">VOL Common Assessments:
AA4(9-12): I can create opportunities to extend my learning by remaining open-minded in any situation.
● ECE Poster Project "From Cradle to Grave"
TCC1(9-12): I can ask purposeful, insightful questions to find a variety of innovative solutions.
● Scavenger Hunt
● ECE Poster Project "From Cradle to Grave"

CCE2(9-12): I can give and receive actionable and relevant feedback with openness to be able to determine meaningful revisions for success.
● ECE Poster Project "From Cradle to Grave"</td></tr>
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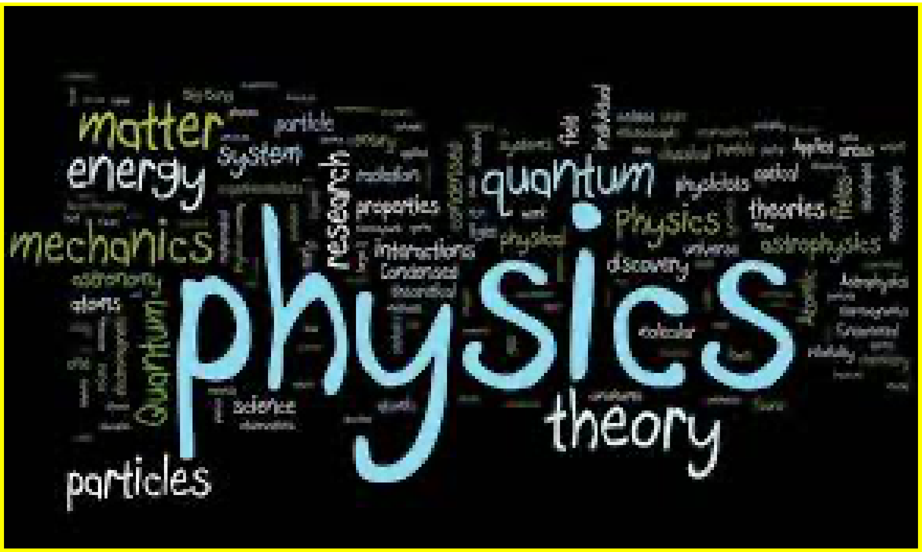
TCC3(9-12): I can integrate relevant information to produce multiple valid solutions. ● Invasive species Wanted Poster ● Infectious Disease Flyer ● Endangered Species Pamphlet ● Natural Areas Project
Teacher Resources: *College Board AP Central: Environmental Science; https://apcentral.collegeboard.org/courses/ap-environmental-science* *Environmental Science for the AP Course text 3rd edition by Andrew Friedland and Rick Relyea, 2019* *UConn Early College Experience guidelines for Environmental Science; www.ece.uconn.edu*

PHYSICS CURRICULUM

	
Grade Level(s): 11-12	**Curriculum Author(s):** Bill Pease

Course Description: Physics is a full year course for the student who is confident in math and science and intends to pursue a postsecondary education in the fields of Science, Pre-Medical, Engineering or Mathematics. It is also highly recommended that all students planning to attend college take this course regardless of career path. Topics covered include Newtonian mechanics,work, energy, power, mechanical waves, sound and light. It will also introduce circuits, optics, electricity and magnetism. Evaluation is based upon tests, quizzes, laboratory work, and a final exam. Physics is offered as an honors or college prep course. The honors level course is designed and implemented so that the depth of the topics discussed in the course surpass that of the College Prep course and include the following: extensions of learning, accelerated pacing, greater complexity in topics, and greater responsibility, creativity, and reflection on the part of the students as their thinking is challenged.

Year At A Glance			
Unit Title	**Overarching Essential Question**	**Overarching Enduring Understanding**	**Vision of A Learner "I Can" Statements**
Kinematics	How does our choice of reference frame affect how we perceive and measure motion in real-world contexts?	Understanding motion in different frames of reference is crucial for fields such as aviation, space travel, and autonomous vehicle navigation.	TCC1(9-12), TCC3(9-12)
Newton's Laws	Why does anything move or stay still?	Forces cause motion and hold structures together.	TCC1(9-12), TCC3(9-12)
Work and Energy	In what ways can work and energy principles help us reduce environmental impact?	Real-world challenges like climate change and resource management depend on understanding how energy is stored, transferred, and conserved.	TCC1(9-12), TCC3(9-12)
Impulse and Momentum	How do airbags, helmets, and crumple zones use momentum concepts to reduce injury?	The conservation of momentum explains real-world phenomena like car crashes and athletic collisions and informs how we protect people from injury.	TCC1(9-12), TCC3(9-12)
2 Dimensional Physics	How can we apply Physics to 2 Dimensional Motions and Rotations?	Most Mechanical situations can be modeled in 2 Dimensions.	TCC1(9-12)
Electricity	How do circuit designs impact power distribution in homes and electronic devices?	Electric forces govern interactions in all electronic devices, and understanding these forces allows for efficient circuit design.	TCC1(9-12)
Electromagnetism	What technologies rely on electromagnetic principles to function?	Magnetic fields created by currents allow the conversion of energy between mechanical and electrical forms, enabling efficient energy systems.	TCC1(9-12)
Sound and Waves	How can wave behavior be manipulated to solve practical problems?	Engineers use wave interference and superposition to solve problems in signal processing and sound design.	TCC3(9-12)

Light and Optics	How do different wavelengths of light affect technology, health, and the environment?	Light exhibits wave and particle properties that are central to technologies like lasers, microscopes, and solar panels.	TCC1(9-12)

Unit 1 - Kinematics	
Desired Results - Goals, Transfer, Meaning, Acquisition	
Established Goals: • **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. • **Science and Engineering Practice:** Analyzing and interpreting data. • **Crosscutting Concepts:** Patterns; Cause and effect.	
Vision of A Learner Attributes: Students will be able to independently use their learning to... ("I can" statements to be demonstrated) TCC1(9-12): I can ask purposeful, insightful questions to find a variety of innovative solutions. TCC3(9-12): I can integrate relevant information to produce multiple valid solutions.	
Understandings: Students will understand that... • Motion can be accurately modeled using mathematical tools, helping engineers design safer cars, better sports equipment, and efficient transit systems. • Graphical and mathematical descriptions of motion allow us to evaluate system performance and identify trends across a range of real-world applications. • Understanding motion in different frames of reference is crucial for fields such as aviation, space travel, and autonomous vehicle navigation.	**Essential Questions:** • How can the motion of vehicles, athletes, or projectiles be predicted and optimized using mathematical models? • In what ways does accurate motion analysis improve safety and efficiency in transportation systems? • How does our choice of reference frame affect how we perceive and measure motion in real-world contexts?
Students will know... • that motion can be described using such quantities as position, displacement, distance, velocity, speed, and acceleration • that displacement, velocity and acceleration are vectors • that displacement is a change in position. Velocity is the rate of change of position. Acceleration is the rate of change of velocity. Changes in each property are	**Students will be able to...** • express the motion of an object using narrative, mathematical, and graphical representations. • design and experimental investigation of the motion of an object. • analyze experimental data describing the motion of an object and is able to express the results of the analysis using narrative, mathematical, and graphical representations. • model the motion of anything with a constant acceleration or an

expressed by subtracting initial values from final values ● that a choice of reference frame determines the direction and the magnitude of each of these quantities. ● that motion can be described using graphs and diagrams.	acceleration that can be approximated to be constant.
Key Vocabulary: Displacement, distance, velocity, speed, acceleration, vector, scalar	
Assessment Evidence	
Performance Tasks: Labs: Motion Matching with motion sensors Measuring acceleration, velocity and position of dropped picket and rolling cart on ramp. Problem solving: Determining Position, Velocity and Acceleration from graphs Determine Position, Velocity and Acceleration using equations of motion	**Other Evidence:** Khan Academy practice Unit Test
Learning Plan	
TCC1 I can ask purposeful, insightful questions to find a variety of innovative solutions. ● Motion Matching Lab TCC3 I can integrate relevant information to produce multiple valid solutions. ● Problem solving: Determining Position, Velocity and Acceleration from graphs ● Determine Position, Velocity and Acceleration using equations of motion	
Teacher Resources: Physicsclassroom.com *Physics* Walker 3rd edition; *Conceptual Physics,* Hewitt, High School Ed. 2009 Lab equipment, Computer based motion measuring sensors Department Lab Report rubric Practice Problems and Khan Academy	

Unit 2 - Newton's Laws

Desired Results - Goals, Transfer, Meaning, Acquisition

Established Goals:

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-PS2-2: Use mathematical representations to support claims about momentum conservation.
Science and Engineering Practice: Developing and using models; Using mathematics and computational thinking.
Crosscutting Concepts: Systems and system models; Stability and change.

Vision of A Learner Attributes: Students will be able to independently use their learning to... ("I can" statements to be demonstrated)
TCC1(9-12): I can ask purposeful, insightful questions to find a variety of innovative solutions.
TCC3(9-12): I can integrate relevant information to produce multiple valid solutions.

Understandings: Students will understand that...

- Forces cause motion and hold structures together.
- Newton's laws provide the foundation for predicting and analyzing the forces acting within engineered systems.
- Free-body diagrams help identify key factors in the stability and safety of structures and mechanical systems.
- Real-world applications—from biomechanics to aerospace—rely on understanding forces to design systems that function safely and efficiently.

Essential Questions:

- Why does anything move or stay still?
- How do engineers use Newton's laws to ensure the structural integrity of buildings, bridges, and spacecraft?
- What role do force diagrams play in predicting system behavior under stress?
- How can we model and analyze the forces involved in real-world activities like jumping, lifting, or driving?

Students will know...
- that the acceleration of an object is directly proportional to the net force exerted on it and inversely proportional to the mass of the object
- that force and acceleration are both vectors, with acceleration in the same direction as the net force.
- that forces have magnitude and direction.

Students will be able to...
- make predictions about the motion of a system based on the fact that acceleration is equal to the change in velocity, and velocity is equal to the change in position per unit time.
- make free body diagrams that describe all the forces acting on an object.

• if one object exerts a force on a second object, the second object always exerts a force of equal magnitude on the first object in the opposite direction. • that even though an object is at rest, there may be forces exerted on that object by other objects. • the difference between conservative and nonconservative forces. • the difference between static friction and kinetic friction.	• design an experiment for collecting data to determine the relationship between the net force exerted on an object and its acceleration. • represent frictional forces, normal forces and weight where appropriate in all his or her models. • apply Newton's laws to determine the cause of accelerations. • use force diagrams to show how different forces are related • apply action-reaction to determine the external forces that make things move.
Key Vocabulary: Mass, force, contact force, non-contact force, friction, tension, weight, equilibrium and free body diagram	
Assessment Evidence	
Performance Tasks: Labs: Effects on Friction Hooke's Law Modified Atwood Machine	**Other Evidence:** Khan Academy practice Unit Test
Learning Plan	
TCC1 I can ask purposeful, insightful questions to find a variety of innovative solutions. • Effects of Friction labs TCC3 I can integrate relevant information to produce multiple valid solutions. • Hooke's Law lab and Modified Attwood lab	
Teacher Resources: Physicsclassroom.com *Physics* Walker 3rd edition; *Conceptual Physics,* Hewitt, High School Ed. 2009 Lab equipment, Computer based motion measuring sensors Department Lab Report rubric Practice Problems and Khan Academy	

<table>
<tr><th colspan="2">Unit 3 - Work and Energy</th></tr>
<tr><th colspan="2">Desired Results - Goals, Transfer, Meaning, Acquisition</th></tr>
<tr><td colspan="2">Established Goals:

NGSS HS-PS3-1. Create a computational model to calculate the change in the energy of one component in a system when the change in energy of the other component(s) and energy flows in and out of the system are known.

NGSS HS-PS3-2. Develop and use models to illustrate that energy at the macroscopic scale can be accounted for as a combination of energy associated with the motions of particles (objects) and energy associated with the relative position of particles (objects).

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.

Science and Engineering Practice: Constructing explanations; Designing solutions.

Crosscutting Concepts: Energy and matter; Structure and function.</td></tr>
<tr><td colspan="2">Vision of A Learner Attributes: Students will be able to independently use their learning to... (“I can” statements to be demonstrated)
TCC1(9-12): I can ask purposeful, insightful questions to find a variety of innovative solutions.
TCC3(9-12): I can integrate relevant information to produce multiple valid solutions.</td></tr>
<tr><td>Understandings: Students will understand that...

● Energy conservation and transformation principles are essential for designing efficient systems in transportation, construction, and human performance.
● Analyzing energy flows allows us to compare the sustainability and impact of various technologies, from hybrid cars to wind turbines.
● Real-world challenges like climate change and resource management depend on understanding how energy is stored, transferred, and conserved.</td><td>Essential Questions:

● How does understanding energy transformations improve the efficiency of machines, appliances, and human movement?
● How do we evaluate the energy costs of different technologies and daily activities?
● In what ways can work and energy principles help us reduce environmental impact?</td></tr>
</table>

Students will know...	**Students will be able to...**
- that the change in kinetic energy of an object depends on the force exerted on the object and on the displacement of the object during the interval that the force is exerted. - that the energy of a system includes its kinetic energy, potential energy, and microscopic internal energy. Examples include gravitational potential energy, elastic potential energy, and kinetic energy. - that mechanical energy (the sum of kinetic and potential energies) is transferred into or out of a system such that a component of the force is parallel to its displacement. The process through which the energy is transferred is called work. - If the force is constant during a given displacement, then the work done is the product of the displacement and the component of the force parallel or antiparallel to the displacement. - Hooke's Law	- calculate the net work applied to a system - apply the law of conservation of energy to a closed system - calculate kinetic energy, gravitational potential energy, elastic potential energy and power - make predictions about the changes in kinetic energy of an object based on considerations of the direction of the net force on the object as the object moves. - apply mathematical routines to determine the changes in kinetic energy given the forces on the object and the displacement of the object. - predict changes in the total energy of a system due to changes in position and speed of objects or frictional interactions within the system. - Use bar charts to illustrate energy exchanges - determine when external energy is added or removed from a mechanical system. - account for Work done and Energy exchanged in a variety of situations including those where mechanical energy is conserved and those where external work changes the amount of mechanical energy available.

Key Vocabulary: Work, conservative forces, elastic forces, kinetic energy, potential energy, mechanical energy, power.

Assessment Evidence

Performance Tasks:	**Other Evidence:**
Labs: Energy Skate Park simulation, Stair Climbing Power Lab, Bungee Jump Lab, Energy of a Tossed Ball Lab	Khan Academy practice Unit Test

Learning Plan

TCC1 I can ask purposeful, insightful questions to find a variety of innovative solutions.
- Energy Skate Park simulation, and Energy of a Tossed ball lab.

TCC3 I can integrate relevant information to produce multiple valid solutions.

• Bungee Jump Lab
Teacher Resources: Physicsclassroom.com, *Physics* Walker 3rd edition; *Conceptual Physics,* Hewitt, High School Ed. 2009 Lab equipment, Computer based motion measuring sensors Department Lab Report rubric Practice Problems and Khan Academy, Phet Online simulation

<table>
<tr><th colspan="2">Unit 4 - Impulse and Momentum</th></tr>
<tr><th colspan="2">Desired Results - Goals, Transfer, Meaning, Acquisition</th></tr>
<tr><td colspan="2">Established Goals:

NGSS HS-PS2-2. Use mathematical representations to support the claim that the total momentum of a system of objects is conserved when there is no net force on the system.

NGSS HS-PS2-3. Apply scientific and engineering ideas to design, evaluate, and refine a device that minimizes the force on a macroscopic object during a collision.

Crosscutting Concepts: Stability and change; Cause and effect.</td></tr>
<tr><td colspan="2">Vision of A Learner Attributes: Students will be able to independently use their learning to... (“I can” statements to be demonstrated)
TCC1(9-12): I can ask purposeful, insightful questions to find a variety of innovative solutions.
TCC3(9-12): I can integrate relevant information to produce multiple valid solutions.</td></tr>
<tr><td>Understandings: Students will understand that...
● The conservation of momentum explains real-world phenomena like car crashes and athletic collisions and informs how we protect people from injury.
● Impulse, as the product of force and time, is a key concept in safety engineering and forensic analysis.
● Understanding collisions enables engineers to design safer vehicles and athletes to improve performance.</td><td>Essential Questions:
● How do airbags, helmets, and crumple zones use momentum concepts to reduce injury?
● How can momentum be used to analyze and reconstruct real-life collisions or sports plays?
● What trade-offs are involved in designing systems that absorb impact?</td></tr>
<tr><td>Students will know...
● that the change in momentum of an object is a vector in the direction of the net force exerted on the object.
● that the change in momentum of an object occurs over a time interval.
● that the change in momentum of an object depends on the impulse, which is the product of the average force and the time interval during which the interaction occurred.
● that in a collision between objects, linear momentum is</td><td>Students will be able to...
● calculate the momentum of an object and of a system of objects.
● calculate the impulse applied to an object.
● justify the selection of routines for the calculation of the relationships between changes in momentum of an object, average force, impulse, and time of interaction.
● make qualitative predictions about natural phenomena based on conservation of linear momentum and restoration of kinetic energy in elastic collisions.</td></tr>
</table>

conserved. In an elastic collision, kinetic energy is the same before and after.	● model punches with the Impulse Momentum Theorem (Newton's Second Law). ● model collisions applying the Conservation of Momentum. ● demonstrate the difference between Elastic and Inelastic Collisions.
Key Vocabulary: Momentum, Impulse, Elastic Collision, Inelastic Collision	
Assessment Evidence	
Performance Tasks: Labs: Impulse Momentum, Conservation of Energy and Momentum in collisions	**Other Evidence:** Unit Test and Khan practices
Learning Plan	
TCC1 I can ask purposeful, insightful questions to find a variety of innovative solutions. ● Impulse and Momentum lab TCC3 I can integrate relevant information to produce multiple valid solutions. ● Conservation of Energy and Momentum in Collisions lab	
Teacher Resources: Physicsclassroom.com *Physics* Walker 3rd edition; *Conceptual Physics,* Hewitt, High School Ed. 2009 Lab equipment, Computer based motion measuring sensors Department Lab Report rubric Practice Problems and Khan Academy	

Unit 5 - 2 Dimensional Physics

Desired Results - Goals, Transfer, Meaning, Acquisition

Established Goals:

NGSS HS-PS2-4. Use mathematical representations of Newton's Law of Gravitation and Coulomb's Law to describe and predict the gravitational and electrostatic forces between objects.

Science and Engineering Practice: Using mathematics and computational thinking.

Crosscutting Concepts: Scale, proportion, and quantity.

Vision of A Learner Attributes: Students will be able to independently use their learning to... ("I can" statements to be demonstrated)

TCC1(9-12): I can integrate relevant information to produce multiple valid solutions.

Understandings: Students will understand that...	**Essential Questions:**
• Real-world motion often involves two dimensions and requires the use of vectors and reference frames to analyze effectively. • Understanding gravitational and projectile motion is essential in aerospace, sports science, and civil engineering. • Accurate predictions of complex motion are crucial for safe navigation and targeting technologies.	• How do pilots, athletes, and engineers apply 2D motion to navigate and optimize performance? • What role does gravity play in shaping planetary motion and satellite paths? • How can vector analysis help us break down and solve real-world motion problems?
Students will know... • that perpendicular motions can be looked at independently • that velocities depend on the frame of reference and perpendicular velocities can added using the Pythagorean Theorem • that horizontal projectiles experience no accelerations • that vertical projectiles only experience gravity • that the centripetal force acting on an object acts perpendicular to the direction of travel. • that the centripetal force is the force that maintains circular motion.	**Students will be able to...** • calculate the motions of boats in perpendicular currents • calculate the motions of plane experiencing perpendicular crosswinds • apply kinematics to projectiles is flight • use Newton's law of gravitation to calculate the gravitational force the two objects exert on each other and use that force in contexts other than orbital motion. • use Newton's law of gravitation to calculate the gravitational force between two objects and use that force in contexts involving orbital motion

• that circular acceleration is equal to the square of the linear speed of an object divided by the radius of the circle (or portion of the circle) the object is traveling along. • that on Earth, the gravitational force is called weight • that the gravitational field at a point in space is measured by dividing the gravitational force exerted by the field on a test object at the point by the mass of the test object and has the same direction as the force. • that the gravitational field is radial and varies as the inverse square of the radial distance from the center of that object.	• calculate the centripetal acceleration • calculate the centripetal force • calculate the gravitational force between two masses • create and use free-body diagrams to analyze physical situations, solve problems with motion qualitatively and quantitatively. • choose appropriate frames of reference to model circular, projectile and gravitational motions.
Key Vocabulary: Vector, Scalar, Component of Motion, Frame of Reference, Centripetal, Gravitational Field	
Assessment Evidence	
Performance Tasks: Labs: 2 Dimensional Forces in Equilibrium, Horizontal projectile lab, Projectile at an angle lab, Flying Pig lab	**Other Evidence:** Unit test and Khan practices
Learning Plan	
TCC1 I can integrate relevant information to produce multiple valid solutions. • Projectile at an angle lab (target challenge)	
Teacher Resources: Physicsclassroom.com, *Physics* Walker 3rd edition; *Conceptual Physics,* Hewitt, High School Ed. 2009 Lab equipment, Computer based motion measuring sensors Department Lab Report rubric Practice Problems and Khan Academy	

Unit 6 - Electricity

Desired Results - Goals, Transfer, Meaning, Acquisition	
Established Goals: HS-PS2-4. Use mathematical representations of Newton's Law of Gravitation and Coulomb's Law to describe and predict the gravitational and electrostatic forces between objects. HS-PS3-5: Model interactions through electric fields and energy changes. Crosscutting Concepts: Systems and system models; Cause and effect.	
Vision of A Learner Attributes: Students will be able to independently use their learning to... ("I can" statements to be demonstrated) TCC1(9-12): I can ask purposeful, insightful questions to find a variety of innovative solutions.	
Understandings: Students will understand that... • Electric forces govern interactions in all electronic devices, and understanding these forces allows for efficient circuit design. • Circuit modeling and analysis enable the development of everything from smartphones to renewable energy grids. • Mastering electric current behavior is essential in fields like electrical engineering, robotics, and biomedical device design.	**Essential Questions:** • How do circuit designs impact power distribution in homes and electronic devices? • Why is understanding electric fields and charge important for developing modern technologies? • How can we model and troubleshoot electrical systems in daily life?
Students will know... • Electric charge is conserved. • There are only two kinds of electric charge. Neutral objects or systems contain equal quantities of positive and negative charge, with the exception of some fundamental particles that have no electric charge. • The smallest observed unit of charge that can be isolated is the electron charge, also known as the elementary charge.	**Students will be able to...** • make predictions, using the conservation of electric charge, about the sign and relative quantity of net charge of objects or systems after various charging processes. • calculate any one of the variables — electric force, electric charge, and electric field — at a point given the values and sign or direction of the other two quantities. • make and justify a quantitative prediction of the effect of a change in values or arrangements of one or two circuit elements

• The magnitude of the electric force F exerted on an object with electric charge q by an electric field E is $F=qE$. The direction of the force is determined by the direction of the field and the sign of the charge. • The values of currents and electric potential differences in an electric circuit are determined by the properties and arrangement of the individual circuit elements such as sources of emf, resistors, and capacitors.	on the currents and potential differences in a circuit containing a small number of sources of emf, resistors, capacitors, and switches in series and/or parallel. • model the forces that affect electric charges. • evaluate the effects of different circuit wiring patterns (series or parallel).
Key Vocabulary: Charge, Current, Electric Field, Electric Potential	
Assessment Evidence	
Performance Tasks: Labs: Simple Circuits, Series and Parallel Circuits, Compound Circuits	**Other Evidence:** Unit test and Khan practices
Learning Plan	
TCC1 I can ask purposeful, insightful questions to find a variety of innovative solutions. • Simple Circuits lab	
Teacher Resources: Physicsclassroom.com, *Physics* Walker 3rd edition; *Conceptual Physics,* Hewitt, High School Ed. 2009 Lab equipment, Computer based voltage and current measuring sensors Department Lab Report rubric Practice Problems and Khan Academy	

Unit 7 - Electromagnetism	
Desired Results - Goals, Transfer, Meaning, Acquisition	
Established Goals: HS-PS3-5. Develop and use a model of two objects interacting through electric or magnetic fields to illustrate the forces between objects and the changes in energy of the objects due to the interaction. HS-PS2-5. Plan and conduct an investigation to provide evidence that an electric current can produce a magnetic field and that a changing magnetic field can produce an electric current. 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. Crosscutting Concepts: Energy and matter; Structure and function.	
Vision of A Learner Attributes: Students will be able to independently use their learning to... ("I can" statements to be demonstrated) TCC1(9-12): I can integrate relevant information to produce multiple valid solutions.	
Understandings: Students will understand that... ● The interplay between electricity and magnetism powers essential technologies, from power grids to electric vehicles. ● Magnetic fields created by currents allow the conversion of energy between mechanical and electrical forms, enabling efficient energy systems. ● Understanding electromagnetic induction is foundational to innovations in clean energy and automation.	**Essential Questions:** ● How do motors and generators harness the relationship between electricity and magnetism? ● What technologies rely on electromagnetic principles to function? ● How can we create more sustainable energy solutions using electromagnetism?
Students will know... ● The magnetic field exerts a force on a moving electrically charged object. ● Ferromagnetic materials contain magnetic domains that are themselves magnets. ● A magnetic force results from the interaction of a moving	**Students will be able to...** ● describe the orientation of a magnetic dipole placed in a magnetic field applying the right hand rule. ● create a verbal or visual representation of a magnetic field around a long straight wire or a pair of parallel wires

charged object or a magnet with other moving charged objects or another magnet. ● The magnetic properties of some materials can be affected by magnetic fields in the system. ● Changing magnetic flux induces an electric field that can establish an induced emf in a system.	● use the representation of magnetic domains to qualitatively analyze the magnetic behavior of a bar magnet composed of ferromagnetic material. ● use representations and models to qualitatively describe the magnetic properties of some materials that can be affected by magnetic properties of other objects (electromagnets) in the system. ● construct an explanation of the function of a simple electromagnetic device (electric motor) in which an induced emf is produced by a changing magnetic flux through an area defined by a current loop ● describe how to create a magnetic field with electricity ● explain why the same mechanism can be used as a motor and a generator.
Key Vocabulary: Magnetic domain, permanent magnetism, soft magnetism, solenoid, induction, emf, Lenz's Law, Faraday's Law	
Assessment Evidence	
Performance Tasks: Labs: Magnetic field lab about various magnets, Magnetic field lab about a conductor, Mini electric motor project	**Other Evidence:** Unit Test
Learning Plan	
TCC1 I can integrate relevant information to produce multiple valid solutions. ● Magnetic field about various magnets lab ● Magnetic field about a conductor lab	
Teacher Resources: Physicsclassroom.com, *Physics* Walker 3rd edition; *Conceptual Physics,* Hewitt, High School Ed. 2009 Lab equipment, PHET simulations Department Lab Report rubric	

Unit 8 - Sound and Waves	
Desired Results - Goals, Transfer, Meaning, Acquisition	
Established Goals: HS-PS4-1. Use mathematical representations to support a claim regarding relationships among the frequency, wavelength, and speed of waves traveling in various media. HS-PS4-2. Evaluate questions about the advantages of using a digital transmission and storage of information. Crosscutting Concepts: Patterns; Energy and matter.	
Vision of A Learner Attributes: Students will be able to independently use their learning to... ("I can" statements to be demonstrated) TCC3(9-12): I can integrate my learning to adapt to experiences in the classroom, career and life.	
Understandings: Students will understand that... ● Waves are fundamental to technologies that transmit, store, and analyze data—from cell phones to medical imaging. ● Understanding wave properties enables the design of efficient communication systems and acoustic environments. ● Engineers use wave interference and superposition to solve problems in signal processing and sound design.	**Essential Questions:** ● How do sound and wave technologies enhance communication, medicine, and entertainment? ● Why are digital signals more reliable than analog in transmitting information? ● How can wave behavior be manipulated to solve practical problems?
Students will know... ● The rate of oscillations depends on the physical force pulling the oscillator back to the center ● Waves can propagate via different oscillation modes such as transverse and longitudinal. ● A simple wave can be described by an equation involving one sine or cosine function involving the wavelength, amplitude, and frequency of the wave. ● When two waves cross, they travel through each other; they do not bounce off each other. Where the waves	**Students will be able to...** ● describe oscillations and waves using appropriate vocabulary, generating examples using waves on a spring ● calculate wave properties using appropriate mathematical models ● measure the wavelengths of standing waves in strings and sound in a tube to find the speed of the waves ● use computer tools to unpack waves and investigate the properties of different sounds

overlap, the resulting displacement can be determined by adding the displacements of the two waves. This is called superposition.	• construct representations to graphically analyze situations in which two waves overlap over time using the principle of superposition. • model waves mathematically and graphically. • graphically show the results of wave interference and use computer tools to unpack interference to see how digital (square waves) signals are easier to combine and unpack than analog (sine waves) signals.
Key Vocabulary: refraction, reflection, propagation, diffraction, interference, superposition, wavelength, period, frequency, volume, longitudinal, transverse	
Assessment Evidence	
Performance Tasks: Simple Harmonic Motion of Pendulums lab Simple Harmonic Motion of Springs lab Waves in a spring lab Standing waves activity Drawing interference of waves Measuring sound waves and Beat interference Exploring sound waves using FFT Speed of sound lab	**Other Evidence:** Wave vocabulary quiz Khan reviews Unit test
Learning Plan	
TCC3 I can integrate my learning to adapt to experiences in the classroom, career and life. • Exploring sound waves using FFT	
Teacher Resources: Physicsclassroom.com, *Physics* Walker 3rd edition; *Conceptual Physics,* Hewitt, High School Ed. 2009 Lab equipment, Computer based microphones and motion sensors Department Lab Report rubric Practice Problems and Khan Academy	

Unit 9 - Light and Optics

Desired Results - Goals, Transfer, Meaning, Acquisition

Established Goals:

HS-PS4-1. Use mathematical representations to support a claim regarding relationships among the frequency, wavelength, and speed of waves traveling in various media.

HS-PS4-3. Evaluate the claims, evidence, and reasoning behind the idea that electromagnetic radiation can be described either by a wave model or a particle model, and that for some situations one model is more useful than the other.

HS-PS4-4. Evaluate the validity and reliability of claims in published materials of the effects that different frequencies of electromagnetic radiation have when absorbed by matter.

HS-PS4-5. Communicate technical information about how some technological devices use the principles of wave behavior and wave interactions with matter to transmit and capture information and energy.

Crosscutting Concepts: Wave behavior; Systems and models.

Vision of A Learner Attributes: Students will be able to independently use their learning to... ("I can" statements to be demonstrated)
TCC1(9-12): I can ask purposeful, insightful questions to find a variety of innovative solutions.

Understandings: Students will understand that...

- Light exhibits wave and particle properties that are central to technologies like lasers, microscopes, and solar panels.
- Engineers and scientists manipulate light to enhance vision, diagnose illness, and transmit data.
- Different types of electromagnetic radiation have varying impacts, applications, and risks, from UV exposure to wireless communication.

Essential Questions:

- How do different wavelengths of light affect technology, health, and the environment?
- How are lenses and mirrors used to improve vision, imaging, and scientific discovery?
- Why does understanding light matter in fields ranging from photography to quantum physics?

Students will know...

- When waves pass through an opening whose dimensions are comparable to the wavelength, a diffraction pattern can be observed.

Students will be able to...

- analyze data (or a visual representation) to identify patterns that indicate that a particular mechanical wave is polarized and

• When waves pass through a set of openings whose spacing is comparable to the wavelength, an interference pattern can be observed. • When light travels from one medium to another, some of the light is transmitted, some is refracted, and some is absorbed. • When light hits a smooth reflecting surface at an angle, it reflects at the same angle on the other side of the line perpendicular to the surface; this law of reflection accounts for the size and location of images seen in mirrors. • When light passes through polarizing filters or reflects off a flat surface it is polarized, demonstrating that the waves are transverse • The refraction of light as it travels from one transparent medium to another can be used to form images. • Types of electromagnetic radiation are characterized by their wavelengths, and certain ranges of wavelength have been given specific names. These include (in order of increasing wavelength spanning a range from picometers to kilometers) gamma rays, x-rays, ultraviolet, visible light, infrared, microwaves, and radio waves.	construct an explanation of the fact that the wave must have a vibration perpendicular to the direction of energy propagation • make claims about the diffraction pattern produced when a wave passes through a small opening, and to qualitatively apply the wave model to quantities that describe the generation of a diffraction pattern when a wave passes through an opening whose dimensions are comparable to the wavelength of the wave. • qualitatively apply the wave model to quantities that describe the generation of interference patterns to make predictions about interference patterns that form when waves pass through a set of openings whose spacing and widths are small compared to the wavelength of the waves. • make claims using connections across concepts about the behavior of light as the wave travels from one medium into another, as some is transmitted, some is refracted, and some is absorbed. • make predictions about the locations of objects and images relative to the location of a reflecting surface. • plan data collection strategies as well as perform data analysis and evaluation of the evidence for noting the relationship between the angle of incidence and the angle of refraction for light crossing boundaries from one transparent material to another (Snell's law) • use quantitative and qualitative representations and models to analyze situations and solve problems about image formation occurring due to the refraction of light through thin lenses. • make qualitative comparisons of the wavelengths of types of electromagnetic radiation. • use light rays to model how light can be used to create images
Key Vocabulary: refraction, reflection, propagation, diffraction, interference, polarization, radiation, focus,	
Assessment Evidence	
Performance Tasks: Polarization, nature of light lab	**Other Evidence:** Unit Test

Plane Mirror Lab Ray tracing for Mirrors Snell's Law Lab Measuring object and image properties lab Diffraction Interference lab	
Learning Plan	
TCC1 I can ask purposeful, insightful questions to find a variety of innovative solutions. ● Polarization, nature of light lab ● Snell's Law lab	
Teacher Resources: Physicsclassroom.com, *Physics* Walker 3rd edition; *Conceptual Physics,* Hewitt, High School Ed. 2009 Lab equipment, including lasers and diffraction gratings Department Lab Report rubric Practice Problems	

ENGLISH 11: SURVIVING THE JOURNEY CURRICULUM

	REGION 14 SCHOOL DISTRICT VISION OF A LEARNER
Grade Level(s): 11	**Curriculum Author(s):** Kelly Nichols, Marisa Holtman

Course Description: In this course, students will examine the complex nature of the journey and related topics such as resilience, perseverance, grit, adversity, and fear. In each unit, students will consider the tensions in and stages of many kinds of journeys: the hero's journey, the adolescent journey, the journey from home, and the journey toward resilience. Students will be asked to think critically about the world around them by analyzing a wide range of sources such as novels, film, TED talks, poetry, and other nonfiction. There will be opportunities each quarter for students to delineate their thinking and understanding about complex topics in different forms of writing (narrative, explanatory, persuasive) and different multimodal formats. Students will develop skills in close reading, critical analysis, public speaking, and use of digital media, and will participate in a collaborative environment by sharing, challenging, and articulating multiple viewpoints.

Year At A Glance			
Unit Title	**Overarching Essential Question**	**Overarching Enduring Understanding**	**Vision of A Learner "I Can" Statements**
1-The Hero's Journey	What makes a hero? How does our understanding of heroes inform our own journeys?	Analyzing the qualities of a hero and the hero's journey creates a shared understanding of the personal and societal impact of one's own journey.	TCC2(9-12) CCE4(9-12) TI4(9-12) AA4(9-12)
2-The Adolescent Journey	What does it mean to come of age? What factors make the transition from innocence to experience challenging?	Personal narratives serve as a medium for understanding our challenges and experiences transitioning to adulthood.	TCC3(9-12) TCC4(9-12) CCE1(9-12) CCE3(9-12) TI3(9-12)
3-The Journey from Home	How does our perception of home shape our perceptions of ourselves? How does one's home contribute to his or her ability to persevere through adversity?	Making connections between geography, socioeconomic factors, and cultural expectations fosters the development of one's personal identity through those lenses.	TCC1(9-12) TCC2(9-12) CCE3(9-12) CCE4(9-12) DE2(9-12)
4-The Journey Toward Resilience	How do we define resilience and what does it mean in our daily lives? How can we foster resilience in our communities as we learn from the lessons of the stories we read?	Studying global, historical, and personal moments of adversity help us to self reflect on our role in our communities.	TCC2(9-12) CCE1(9-12) CCE3(9-12) TI4(9-12)

Unit 1 - The Hero’s Journey
Desired Results - Goals, Transfer, Meaning, Acquisition
Established Goals: **Common Core State Standards** CCSS.ELA-LITERACY.S.12.1 Initiate and participate effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on grades 11-12 topics, texts, and issues, building on others' ideas and expressing their own clearly and persuasively CCSS.ELA-LITERACY.RL.11-12.1 Cite strong and thorough textual evidence to support analysis of what the text says explicitly as well as inferences drawn from the text, including determining where the text leaves matters uncertain. CCSS.ELA-LITERACY.W.11-12.1 Write arguments to support claims in an analysis of substantive topics or texts, using valid reasoning and relevant and sufficient evidence. CCSS.ELA-LITERACY.W.11-12.9 Draw evidence from literary or informational texts to support analysis, reflection, and research.
Vision of A Learner Attributes: Students will be able to independently use their learning to... (“I can” statements to be demonstrated) TCC2(9-12): I can evaluate evidence from multiple perspectives, and recognize their limitations and implications, in order to justify new conclusions. CCE4(9-12): I can communicate and express my understanding in an authentic, respectful and relevant way, using the most effective mode of expression. TI4(9-12): I can apply my strengths and anticipate challenges to reach my current and future goals. AA4(9-12): I can create opportunities to extend my learning by remaining open-minded in any situation.

<table>
<tr>
<td>Understandings: Students will understand that…

● The definitions of heroes and monsters are complex
● Analyzing both canonical and contemporary literature can help students self reflect on their own life journeys
● Analyzing big ideas in multiple modes can help develop a complex understanding of unit topics
● A successful argument will put forth a claim, support that claim with evidence, then offer a counterclaim.</td>
<td>Essential Questions:

● What makes a hero?
● How does our understanding of heroes inform our own journeys?
● How can crafting a claim and defending a topic make us insightful writers and thinkers?</td>
</tr>
<tr>
<td>Students will know…

● How to craft a strong claim and counterclaim
● How to select substantial, relevant evidence to support a claim
● How to use feedback to self edit and revise written work</td>
<td>Students will be able to…

● Students will be able to analyze the role of different heroes in literature and life and define or revise their own concepts of heroism.
● Students will be able to communicate their ideas clearly and effectively both in their writing and in oral conversations.
● Students will be able to defend a position about heroism with effective components of argumentation.</td>
</tr>
<tr>
<td colspan="2">Key Vocabulary: hero, hero's journey, villain, anti-hero, claim, counterclaim, evidence, survival, adversity</td>
</tr>
</table>

<table>
<tr>
<th colspan="2">Assessment Evidence</th>
</tr>
<tr>
<td>Performance Tasks:

Summative 1: Modern Day Hero Research Project

Summative 2: Argumentative Essay - Is Odysseus a hero?</td>
<td>Other Evidence:

Formative Assessment:

1) Analysis of examples of modern-day heroes
2) Research conferences and check ins
3) The Odyssey close reading practice
4) Review of argument writing techniques

Interim Assessments:

1) Hero Research Project Graphic Organizer (research, thesis workshop)</td>
</tr>
</table>

	2) Hero Research Project Reflection Draft 3) Odysseus Mind Map 4) Argumentative Essay Rough Draft

Learning Plan
TCC2(9-12): I can evaluate evidence from multiple perspectives, and recognize their limitations and implications, in order to justify new conclusions. Summative 2: Argumentative Essay CCE4(9-12): I can communicate and express my understanding in an authentic, respectful and relevant way, using the most effective mode of expression. Formative 2: Research conferences; Summative 1: Modern Day Hero Research Project TI4(9-12): I can apply my strengths and anticipate challenges to reach my current and future goals. Formatives: Modern Day Hero Project research, Close reading passages from *The Odyssey* AA4(9-12): I can create opportunities to extend my learning by remaining open-minded in any situation. Summative 2: Argumentative Essay
Teacher Resources: Mentor Text: *The Odyssey* Supplemental Texts (including but not limited to): Ebooks: The Quest, The Hero (available in databases) Misc. Video: What makes a hero?, The Austin Hatch Story, The Thai Cave Rescue, The Story of Sully Film: T*he Power of One*/Avildsen Student selected non-fiction pieces such as memoir excerpts or articles about modern day heroes

Unit 2 - The Adolescent Journey
Desired Results - Goals, Transfer, Meaning, Acquisition
Established Goals: **Common Core State Standards** CCSS.ELA-LITERACY.W.11-12.3 Write narratives to develop real or imagined experiences or events using effective technique, well-chosen details, and well-structured event sequences. CCSS.ELA-LITERACY.RL.11-12.2 Determine two or more themes or central ideas of a text and analyze their development over the course of the text, including how they interact and build on one another to produce a complex account; provide an objective summary of the text. CCSS.ELA-LITERACY.RL.11-12.4 Determine the meaning of words and phrases as they are used in the text, including figurative and connotative meanings; analyze the impact of specific word choices on meaning and tone, including words with multiple meanings or language that is particularly fresh, engaging, or beautiful. (Include Shakespeare as well as other authors.)
Vision of A Learner Attributes: Students will be able to independently use their learning to... ("I can" statements to be demonstrated) TCC3(9-12): I can integrate relevant information to produce multiple valid solutions. TCC1(9-12): I can ask purposeful, insightful questions to find a variety of innovative solutions. AA2(9-12): I can assess my past successes and mistakes to change my approach. CCE3(9-12): I can show initiative in prompting group discourse and fostering collaboration among others, providing actionable feedback, and working with others to solve problems and/or design products. P1(9-12): I can self-reflect and seek feedback to build upon my strengths, apply those strengths to overcome obstacles, and share my strategies with others.

<table>
<tr><td>Understandings: Students will understand that…
The definition of coming of age is complex
There are patterns and similarities between coming of age stories across time and space
The big ideas in multiple modes can help develop a complex understanding of unit topics
A successful personal narrative will incorporate multiple literary and language devices to tell a story</td><td>Essential Questions:
What does it mean to come of age?
What factors make the transition from innocence to experience challenging for individuals?
How can I develop my voice as a writer?</td></tr>
<tr><td>Students will know…
How to use literary devices (diction, imagery, inner monologue) to create voice in a personal narrative
How a theme is introduced and developed over the course of a text
How analysis of characterization contributes to understanding theme</td><td>Students will be able to…
Interpret and analyze a visual text
Participate in small group discussions on character development and theme
Close read passages in literature to identify literary devices, character, and theme
Draft and revise a personal narrative
Identify patterns in the coming of age process and explain those patterns using multiple modes</td></tr>
<tr><td colspan="2">Key Vocabulary: memoir, personal narrative, imagery, diction, inner monologue, close reading, theme, characterization, infographic</td></tr>
<tr><td colspan="2" align="center">Assessment Evidence</td></tr>
<tr><td>Performance Tasks:

Summative 1: Personal Narrative

Summative 2: Infographic of Patterns in the Adolescent Journey (Personal Theme Project)</td><td>Other Evidence:

Formative Assessment:

1) Analysis of visual media
2) Writing conferences
3) Narrative writing practice using imagery, diction, and inner monologue
4) Close Reading passages from Born a Crime

Interim Assessments:</td></tr>
</table>

	1) Close reading quizzes 2) Theme Comparison Paragraph 3) Personal Narrative Draft 4) Personal Theme Project Draft

Learning Plan
TCC3(9-12): I can integrate relevant information to produce multiple valid solutions. Summative 2: Personal Theme Project TCC1(9-12): I can ask purposeful, insightful questions to find a variety of innovative solutions. Summative 2: Personal Theme Project AA2(9-12): I can assess my past successes and mistakes to change my approach. Interim 3: Personal Narrative Draft CCE3(9-12): I can show initiative in prompting group discourse and fostering collaboration among others, providing actionable feedback, and working with others to solve problems and/or design products. Formative: Class discussions on character development and theme P1(9-12): I can self-reflect and seek feedback to build upon my strengths, apply those strengths to overcome obstacles, and share my strategies with others. Formative 2: Writing conferences Interim 3: Personal Narrative Draft Summative 1: Personal Narrative
Teacher Resources: Mentor Text: *Born a Crime* (with audiobook) Supplemental Texts (including but not limited to): Short stories: “Two Kinds” by Tan, “All-American Slurp” by Namioka Misc. Video: Humans of New York.com Film: *Stand By Me*/Reiner Student selected memoir passages

Unit 3 - The Journey From Home
Desired Results - Goals, Transfer, Meaning, Acquisition
Established Goals: **Common Core State Standards** CCSS.ELA-LITERACY.RI.11-12.7 Integrate and evaluate multiple sources of information presented in different media or formats (e.g., visually, quantitatively) as well as in words in order to address a question or solve a problem. CCSS.ELA-LITERACY.W.11-12.2 Write informative/explanatory texts to examine and convey complex ideas, concepts, and information clearly and accurately through the effective selection, organization, and analysis of content. CCSS.ELA-LITERACY.W.11-12.6 Use technology, including the Internet, to produce, publish, and update individual or shared writing products in response to ongoing feedback, including new arguments or information.
Vision of A Learner Attributes: Students will be able to independently use their learning to... ("I can" statements to be demonstrated) TCC1(9-12): I can ask purposeful, insightful questions to find a variety of innovative solutions. TCC2(9-12): I can evaluate evidence from multiple perspectives, and recognize their limitations and implications, in order to justify new conclusions. CCE3(9-12): I can show initiative in prompting group discourse and fostering collaboration among others, providing actionable feedback, and working with others to solve problems and/or design products. CCE4(9-12): I can communicate and express my understanding in an authentic, respectful and relevant way, using the most effective mode of expression. DE2(9-12): I can honor my own feelings and show empathy toward others through my actions.

<table>
<tr><td>Understandings: Students will understand that…
Geography, societal, and cultural expectations impact an individual’s perspective of home
Research on the refugee experience can help them self reflect on their own journeys
Critically analyzing research sources is a necessary component of digital literacy
Different modes allow different methods of communication depending on audience</td><td>Essential Questions:
How does our perception of home shape our perceptions of ourselves?
What motivates some people to move away while others never stay close to their familiar environments?
What limits can our homes impose? What freedoms can they grant?
How does one’s home contribute to one’s ability to persevere through adversity?</td></tr>
<tr><td>Students will know…
How to analyze digital sources for authority, reliability, and relevance
How to use evidence (details, facts, statistics, etc.) to explain
Multiple examples of the global refugee experience</td><td>Students will be able to…
Evaluate the complicated role our notion of “home” plays in shaping our identities.
Analyze how geography, societal, and cultural expectations impact an individual’s perspective of home
Evaluate sources for authority, reliability, and relevance
Write an explanatory essay considering topic sentences, evidence, and organization</td></tr>
<tr><td colspan="2">Key Vocabulary: refugee, authority, reliability, relevance, multimodal, socioeconomic, expectations, perspective. mode</td></tr>
<tr><td colspan="2" align="center">Assessment Evidence</td></tr>
<tr><td>Performance Tasks:

Summative 1: Refugee Multimodal Research Project

Summative 2: Journey From Home Creative Project and Explanatory Essay</td><td>Other Evidence:
Formative Assessment:
1) Small group discussions
2) Research on global refugee experiences
3) Film viewing guide
4) Explanatory Essay Peer Editing

Interim Assessments:
1) Refugee Webquest
2) Refugee Reading Group Portfolio
3) Refugee Research Project Graphic Organizer and Annotated Works Cited
4) Explanatory Essay Draft</td></tr>
</table>

Learning Plan
Vision of A Learner Attributes: Students will be able to independently use their learning to... ("I can" statements to be demonstrated) TCC1(9-12): I can ask purposeful, insightful questions to find a variety of innovative solutions. Summative 1: Refugee Research Project TCC2(9-12): I can evaluate evidence from multiple perspectives, and recognize their limitations and implications, in order to justify new conclusions. Summative 1: Refugee Research Project CCE3(9-12): I can show initiative in prompting group discourse and fostering collaboration among others, providing actionable feedback, and working with others to solve problems and/or design products. Formative 1: Small group discussion, Summative 1: Refugee Research Project CCE4(9-12): I can communicate and express my understanding in an authentic, respectful and relevant way, using the most effective mode of expression. Summative 2: Journey From Home Creative Project DE2(9-12): I can honor my own feelings and show empathy toward others through my actions. 4) Explanatory Essay Peer Editing
Teacher Resources: Mentor Text: *Refugee* by Gratz Supplemental Texts (including but not limited to): Poetry: "Where I'm From" by Perdomo Misc. Video: Noodletools Tutorials, www.savethechildren.org, the UDHR, Storycorps.org

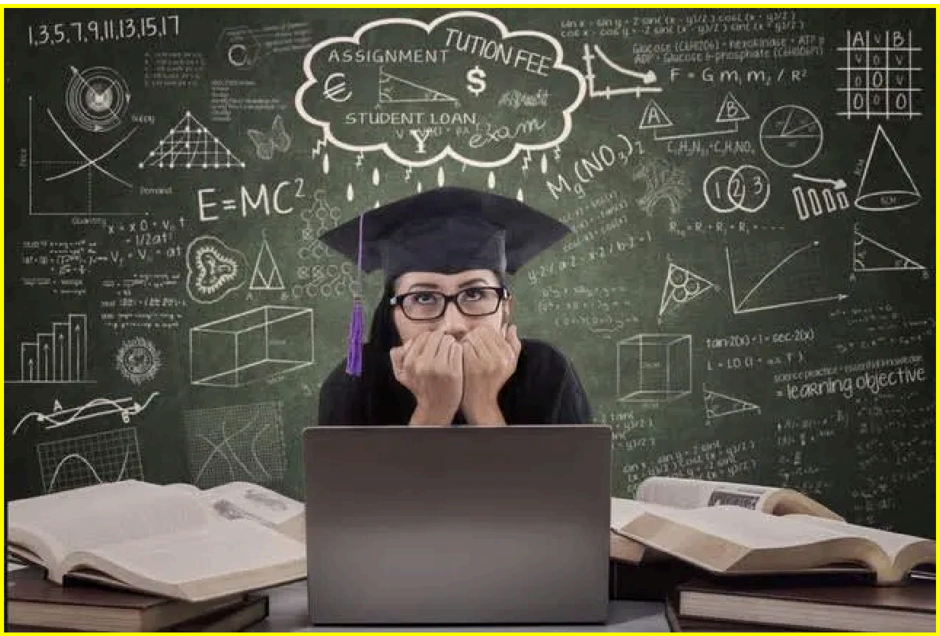
Unit 4 - The Journey Toward Resilience
Desired Results - Goals, Transfer, Meaning, Acquisition
Established Goals: **Common Core Standards** CCSS.ELA-LITERACY.W.11-12.6 Use technology, including the Internet, to produce, publish, and update individual or shared writing products in response to ongoing feedback, including new arguments or information. CCSS.ELA-LITERACY.W.11-12.7 Conduct short as well as more sustained research projects to answer a question (including a self-generated question) or solve a problem; narrow or broaden the inquiry when appropriate; synthesize multiple sources on the subject, demonstrating understanding of the subject under investigation. CCSS.ELA-LITERACY.RL.11-12.1 Cite strong and thorough textual evidence to support analysis of what the text says explicitly as well as inferences drawn from the text, including determining where the text leaves matters uncertain. CCSS.ELA-LITERACY.RL.11-12.4 Determine the meaning of words and phrases as they are used in the text, including figurative and connotative meanings; analyze the impact of specific word choices on meaning and tone, including words with multiple meanings or language that is particularly fresh, engaging, or beautiful. (Include Shakespeare as well as other authors.)
Vision of A Learner Attributes: Students will be able to independently use their learning to... ("I can" statements to be demonstrated) CC1(9-12): I can ask purposeful, insightful questions to find a variety of innovative solutions. CCE2(9-12): I can give and receive actionable and relevant feedback with openness to be able to determine meaningful revisions for success. DE4(9-12): I can work respectfully with all members of my community and support the needs of others. TI1(9-12): I can implement a realistic plan and adapt when necessary to achieve my goals.

P4(9-12): I can take-on challenges and continuously engage in my own long-term strategies to overcome them to demonstrate through personal experience that failures are more instructive than discouraging. AA1(9-12): I can evaluate different approaches and justify the best pathway to success.	
Understandings: Students will understand that… ● Resilience is an important factor that dictates the course of a journey ● Adversity is a necessary component to all journeys ● Different modes allow different methods of communication depending on the audience ● Inquiry means exploring a topic or big idea rather than proving a point	**Essential Questions:** ● How do we define resilience and what does it mean in our daily lives? ● How can we foster resilience in our communities as we learn from the lessons of the stories we read? ● How does the ability to be resilient determine the course of our lives? ● How do you define courage? ● Is perseverance necessary for a successful life? ● Why has grit become such a popular concept in recent years?
Students will know… ● How to identify poetic devices such as figurative language, etc. ● How to annotate a poem for poetic devices and author's message ● How to self reflect on their learning styles and select a mode for a creative project	**Students will be able to…** ● Annotate a poem ● Analyze poetry for poetic devices and message ● Understand how images in a graphic novel contribute to characterization and theme ● Compose poetry and demonstrate understanding of multiple texts and genres through various creative expressions.
Key Vocabulary: inquiry, annotate, figurative language, enjambment, end stop, resilience, grit, perseverance, symbolism, resilience	
Assessment Evidence	
Performance Tasks: Summative 1: Inquiry Essay Summative 2: *Dispatches from the Edge* Creative Project or Poetry Portfolio	**Other Evidence:** Formative Assessments: 1) Crafting inquiry questions 2) *TCUE* Chapter Analysis Questions

	3) Poetry annotation practice Interim Assessments: 1) *TCUE* Daily Mail Quiz 2) Creative Project Proposal 3) Inquiry Essay Outline 4) *Dispatches* Close Reading Quiz

Learning Plan
TCC1(9-12): I can ask purposeful, insightful questions to find a variety of innovative solutions. Summative 1: Inquiry Essay CCE2(9-12): I can give and receive actionable and relevant feedback with openness to be able to determine meaningful revisions for success. Formative 1: Crafting inquiry questions, Interim 2: Creative Project Proposal DE4(9-12): I can work respectfully with all members of my community and support the needs of others. Formative 3: Poetry annotation practice, Interim 2: Creative Project Proposal TI1(9-12): I can implement a realistic plan and adapt when necessary to achieve my goals. Interim 3: Inquiry Essay Outline P4(9-12): I can take-on challenges and continuously engage in my own long-term strategies to overcome them to demonstrate through personal experience that failures are more instructive than discouraging. Formative 2: *TCUE* Chapter Analysis Questions, Interim 1: *TCUE* Daily Mail Quiz AA1(9-12): I can evaluate different approaches and justify the best pathway to success. Summative 1: Inquiry Essay
Teacher Resources: Mentor Text: *They Called Us Enemy* by Takei; Supplemental Texts (including but not limited to): Excerpts from *Dispatches from the Edge* by Anderson Cooper, “The Long and Short of It” by Paul Bloom; Poetry: “Invictus” By Henley, “A Brief for the Defense” By Gilbert, If by Kipling, Still I Rise by Angelou, “The Journey” by Oliver; Misc. Video: Angela Lee Duckworth on Grit, Facing History.org, “This is Water” by Wallace; Film: *Rudy*

BUILDING BRIDGES YEAR TWO CURRICULUM



Grade Level(s): 9 & 10	**Curriculum Author(s):** Renee Harris, Kellie Barber, Jennifer Trocolla

Course Description: Building Bridges is a one-credit, elective course designed for Freshmen and Sophomores with individualized education plans to learn study skills, time management, test taking skills, and transition skills. The class would take the place of an academic lab and students would receive one credit for the year-long course. The course would have an opening lesson in which students would receive direct instruction on a skill to practice and then time in class to work on that skill using their own assignments from other content area classes or an assignment that has been made specifically for the course. The course is meant to bridge the gap between middle school and high school for students identified through special education, and to teach them skills to help bridge the gap between high school and post-secondary planning.

Year At A Glance			
Unit Title	**Overarching Essential Question**	**Overarching Enduring Understanding**	**Vision of A Learner "I Can" Statements**
Individual Rights and Responsibilities	What role do I play in defining my future?	Individual Rights and responsibilities are based on the rights that are determined through IDEA as well as the rights of students and individuals as a learner. Along with these rights comes the responsibilities that each student has to their community and their school as well themselves. It means making your own choices, learning effectively to solve problems, and taking control and responsibility for one's life.	TCC1 (9-12); TCC3 (9-12); CCE1 (9-12); TI3 (9-12); TI4 (9-12); AA1 (9-12)
Study Skills	How can I align my own strengths and weaknesses to a career or post-secondary path?	College and Career Planning is a lifelong process that is unique to each individual based on their interests, strengths and future aspirations in alignment with your own strengths and weaknesses	AA2 (9 -12); TCC4 (9 -12); TCC3 (9-12); TCC2 (9-12); TI1 (9-12)
Individual Strengths and Weaknesses	How do my strengths and weaknesses tell me who I am as a learner and how I can plan my future effectively based on myself as an individual	Success in long term goals is established through short term successes	TI4 (9 -12); P3 (9 -12); AA3 (9-12); AA4 (9-12); P1 (9-12)
Life Planning	How can I start to plan to live independently and contribute to my community as an individual.	A successful member of society contributes to their community as well their individual growth and success.	P3 (9-12); AA4 (9-12); AA2 (9-12); TI2 (9-12); CCE2 (9-12)

Unit 1 - Individual Rights and Responsibilities

Desired Results - Goals, Transfer, Meaning, Acquisition

Established Goals:
Connecticut School Counseling Framework Guide
Standard A-3 (9-10) : Demonstrate an understanding of the value of life-long learning
Standard A-1 (9-10) : Use time management skills in addressing school responsibilities
Standard A- 6 (9-10) : Use problem solving and decision making skills to assess progress toward educational goals
Standard A- 1 (9-10) : Demonstrate the ability to work cooperatively in a group
Standard C - 3 (9-10): Develop ongoing time management skills and create a school and work schedule
Standard S/E 3 (9- 10): Demonstrate effective decision making skills that lead to positive interpersonal relationships

Vision of A Learner Attributes: Students will be able to independently use their learning to... ("I can" statements to be demonstrated)

- TCC1 (9-12) I can ask purposeful insightful questions to find a variety of innovative solutions
- TCC3 (9-12) I can integrate relevant information to produce multiple valid solutions
- CCE1 (9-12) Engage others in meaningful conversations while respecting multiple perspectives
- TI3 (9-12) I can formulate and investigate probing questions to further my learning
- TI4 (9-12) I can apply my strengths and anticipate challenges to reach my current and future goals
- AA1 (9-12) I can evaluate different approaches and justify the best pathway to success

Understandings: Students will understand that…

- Self Advocacy is understanding one's own strengths and weaknesses and the skills to find the appropriate resources when necessary in order to achieve the desired outcomes
- Self Determination is a combination of attitudes and abilities that lead people to set goals for themselves and to take initiative to reach those goals. It means making your own choices, learning effectively to solve problems, and taking control and responsibility for one's life.
- Developing effective executive functioning strategies and skills

Essential Questions:

- How does one's choice affect their life?
- What role do I play in defining my future?
- What is personal responsibility and why is it important to practice?
- How can I take notes that I can understand and utilize later?
- What rights do I have under IDEA and how do those transfer to career and college readiness?
- How can I balance my school, work and home life through planning, prioritizing and executive functioning skills?

enable us to plan, focus attention, remember and juggle multiple tasks and allows us to create a successful balance academically and personally.	
Students will know... ● The difference between an IEP and 504 under IDEA ● How to read and understand their own IEP ● How to use their resources to appropriately advocate for themselves ● Different executive functioning strategies to assist them academically and personally including note-taking and planning ● How to become an active participant in their educational plan	**Students will be able to...** ● Create an effective plan in order to accomplish a set goal ● Read and understand their own individualized education plan ● Identify and explain their rights under an IEP and 504 ● Identify and apply the most effective executive functioning strategies that best meets their learning needs ● Collaborate and communicate effectively in their own planning and placement meeting
Key Vocabulary: IDEA, 504, Individualized Education Plan, Advocacy, Executive Functioning, Self Determination, planning and placement team meeting, prioritizing, accommodations, modifications, chunking, rights, ADA	
Assessment Evidence	
Performance Tasks: Summative One: Use an executive functioning questionnaire to find who they are as a student and create a fact sheet on how they learn best to give to teachers or support staff. Summative Two: Students will plan and create a powerpoint or presentation to use at their own PPT meeting describing their goals and strengths in order to be a part of the PPT	**Other Evidence:** <u>Interim</u> IEP Questionnaire Executive Functioning Questionnaire Self Assessment Rubric
Learning Plan	
TCC1 (9-12) I can ask purposeful insightful questions to find a variety of innovative solutions ★ Summative Two ★ Inventories and questionnaires TCC3 (9-12) I can integrate relevant information to produce multiple valid solutions ★ Daily/ Weekly Activities and Forms	

CCE1 (9-12) Engage others in meaningful conversations while respecting multiple perspectives ★ Personal Interviews TI3 (9-12) I can formulate and investigate probing questions to further my learning ★ Interim One ★ Checklist for assignment initiation, carry through and completion TI4 (9-12) I can apply my strengths and anticipate challenges to reach my current and future goals ★ Interim Two ★ Interim Three AA1 (9-12) I can evaluate different approaches and justify the best pathway to success ★ Summative One
Teacher Resources: Teacher created resources including but not limited to ❖ Self Assessment Rubric ❖ IEP Scavenger Hunt ❖ Weekly Homework/ Grade Checks ❖ Weekly planning template ❖ Executive Functioning Inventories ❖ Self Determination and Advocacy Inventories ❖ 504 vs IEP slideshow and Edpuzzles ❖ Assignment Checklists

Unit 2 - Study Skills	
Desired Results - Goals, Transfer, Meaning, Acquisition	
Established Goals: Standard A -1 (9 - 10) Apply techniques for reducing stress and test anxiety Standard A - 4 (9 - 10) Apply technical knowledge and skills to complete real world assignments Standard A - 4 (9 - 10) Identify, evaluate and utilize technology tools for academic success Standard C - 2 (9 - 10) Apply decision making skills to previous career research to set career goals Standard C - 2 (9 - 10) Research postsecondary academic requirements in relation to future career goals for the purpose of academic planning Standard C - 6 (9- 10) Apply knowledge of technology and social media to research and organize career goals	
Vision of A Learner Attributes: Students will be able to independently use their learning to... ("I can" statements to be demonstrated) ● AA2 (9 -12) I can assess my past successes and mistakes to change my approach. ● TCC4 (9 -12) I can integrate my learning to adapt to experiences in the classroom, career and life. ● TCC3 (9- 12) I can integrate relevant information to produce multiple valid solutions. ● TCC2 (9-12) I can evaluate evidence from multiple perspectives, and recognize their limitations and implications, in order to justify new conclusions. ● TI1 (9-12) I can implement a realistic plan and adapt when necessary to achieve my goals.	
Understandings: ● College and Career Planning is a lifelong process that is unique to each individual based on their interests, strengths and future aspirations in alignment with your own strengths and weaknesses ● Developing a wide array of strategies and interventions to support my academic successes based on my own strengths and weaknesses will help me achieve success.	**Essential Questions:** ● Why is it important to research and explore career and college options in high school? ● How can I align my own strengths and weaknesses to a career or post-secondary path? ● How do my actions and choices today affect my future self? ● How do I support my future goals using tools and interventions available to me? ● How do I align my strengths and weaknesses with available tools and strategies to improve my academic and personal success?

Students will know...	Students will be able to...
- The difference between a certification, associates and college degree - The difference between the traditional college route and a trade related program - The tools available to students within the school to help them research and create their own post-secondary plan - The essential elements to test taking strategies - The essential elements to an effective study plan	- Choose and create an individualized study plan prior to an assessment that aligns to their own strengths and weaknesses - Identify and explain effective test taking skills for an upcoming assessment based on their own strengths and weaknesses - Identify and evaluate the differences between a certification, associate and college degree - Identify and evaluate the differences between the traditional college route and a trade related program - Research and create a fluid individualized post secondary plan that aligns with their own interests and skills

Key Vocabulary: Certification, effective, traditional, associates, elements, individualized, undergraduate, graduate, PSAT, SAT, bachelors, masters, doctorate, post-secondary, naviance, CCRC, ASVAB, mnemonics,

Assessment Evidence

Performance Tasks:	Other Evidence:
Summative #1: Create study plan for a upcoming project and/or test as well as their own study guide using materials from the classroom and online Summative #2: Research 1 career choice detailing how the career aligns with their own strengths and weaknesses and a successful path to the career.	<u>Interims</u> Test taking strategies inventory Long term project inventory Onet inventory and questionnaires

Learning Plan

AA2 (9 -12) I can assess my past successes and mistakes to change my approach.

- ★ Interim #1
- ★ Personal Interviews

TCC4 (9 -12) I can integrate my learning to adapt to experiences in the classroom, career and life.

- ★ Summative #1
- ★ Inventories and Questionnaires

TCC3 (9- 12) I can integrate relevant information to produce multiple valid solutions. ★ Interim #2 ★ Class Discussions/Socratic Seminar TCC2 (9-12) I can evaluate evidence from multiple perspectives, and recognize their limitations and implications, in order to justify new conclusions. ★ Interim #3 ★ Class Discussions/Socratic Seminar TI1 (9-12) I can implement a realistic plan and adapt when necessary to achieve my goals. ★ Summative #2 ★ CCRC visit (virtual or in person)
Teacher Resources: Teacher created resources including but not limited to: ★ Study Tools ★ Onet questionnaire and resources ★ Test Taking Strategies ★ Career fact sheets ★ Study Skills powerpoints and edpuzzles ★ Career research inventories ★ Study Skills tools and inventories

Unit 3 - Individual Strengths and Weaknesses
Desired Results - Goals, Transfer, Meaning, Acquisition

Established Goals:

Standard A3 (9-10): Seek and undertake experiences within the school and community that enhance coursework and support personal goals.
Standard A2 (9-10): Connect future plans to goals and make informed program of studies choices
Standard A1 (9-10): Review, revise and update academic, career and personal goals
Standard A5 (9-10): Understand the correlation between school success and the positive transition to community, post-secondary and career path
Standard C1 (9 - 10) Identify personal strengths and weaknesses in relationship to postsecondary education and training requirements
Standard C3 (9- 10): Continue to learn how to effectively make SMART goals and make improvements or changes as necessary

Vision of A Learner Attributes: Students will be able to independently use their learning to... ("I can" statements to be demonstrated)

- TI4 (9 -12) I can apply my strengths and anticipate challenges to reach my current and future goals.
- P3 (9 -12) Demonstrate flexibility and acceptance of setbacks to reach success.
- AA3 (9-12) I can adjust my expectations and behaviors to succeed in a changing and unpredictable environment.
- AA4 (9-12) I can seek opportunities to learn more and continue to push my thinking.
- P1 (9-12) Identify and utilize personal strengths to overcome obstacles.

Understandings: Students will understand that…

- Effective communication both digitally and in person can help achieve a desired outcome but is a practiced skill that must be developed and maintained
- Choices made now impact future life goals
- Success in long term goals is established through short term successes
- Future planning is a process and has key elements that are scaffolded and have a natural progression throughout someone's life

Essential Questions:

- What are the key elements for future planning?
- How can I make short term success that will help me achieve my long term goals?
- How can I make good choices that will positively affect my future self?
- How does effective communication help achieve a desired outcome?

<table>
<tr><td>Students will know…
The difference between formal and informal communication
The key words and understanding of strengths and weaknesses
How to become a strong individual and use strengths in long term planning
The importance of establishing goals both short and long term</td><td>Students will be able to...
Create list and fact sheet of strengths and weaknesses
Craft a formal communication for educators or employers
Identify and locate community resources and activities that align with their own goals
Identify and explain the difference between a short and long term goal
Identify their own strengths and weakness and how they build their learner profile</td></tr>
<tr><td colspan="2">Key Vocabulary: Strength, learner, individual, learning styles, advocate, formal, informal, community, credit, strategy, learning tool</td></tr>
<tr><th colspan="2">Assessment Evidence</th></tr>
<tr><td>Performance Tasks:
★ Summative One: Create a fact sheet detailing their individual strengths and how they align with their goals and long term plans

★ Summative Two: Create a formal letter to a future employer about intent (cover letter)</td><td>Other Evidence:
<u>Interims</u>
★ Individual inventories
★ Goal setting sheet
★ Resume editing and revising
★ Real world inventories</td></tr>
<tr><th colspan="2">Learning Plan</th></tr>
<tr><td colspan="2">TI4 (9 -12) I can apply my strengths and anticipate challenges to reach my current and future goals.
★ Summative One
★ Goal Setting Sheet
P3 (9 -12) Demonstrate flexibility and acceptance of setbacks to reach success.
★ Interim One
★ Performance Rubric
AA3 (9-12) I can adjust my expectations and behaviors to succeed in a changing and unpredictable environment.
★ Interim Three
★ Inventories and Questionnaires
AA4 (9-12) I can seek opportunities to learn more and continue to push my thinking.
★ Interim One
★ Interim Four</td></tr>
</table>

P1 (9-12) Identify and utilize personal strengths to overcome obstacles. ★ Summative Two
Teacher Resources: Teacher created but not limited to: ❖ Strength Inventories ❖ Email Presentation and examples ❖ Goal Planning presentation and template ❖ Performance rubric

<table>
<tr><th colspan="2">Unit 4 - Life Planning</th></tr>
<tr><th colspan="2">Desired Results - Goals, Transfer, Meaning, Acquisition</th></tr>
<tr><td colspan="2">Established Goals:

Connecticut Comprehensive k-12 School Counseling Framework Guide:
Standard C5: (9-10): Develop a system for collecting information that will be helpful in writing a resume(i.e., participation in extracurricular, community service activities,awards)
Standard C3 (9-10): Identify steps that need to be taken over the next few years for transition from high school to postsecondary education/training
Standard C2: Demonstrate the skills and abilities to research, identify career options, and take the necessary steps to obtain a job. Develop a research strategy and the tools to search for and obtain employment.
Standard C1 (9-10): Identify personal values, personality, abilities and interests in relation to career options and the world of work.
Standard A5 (9-10): Understand the correlation between school success and the positive transition to community, post-secondary and career path</td></tr>
<tr><td colspan="2">Vision of A Learner Attributes: Students will be able to independently use their learning to... (“I can” statements to be demonstrated)
P3 (9-12) I can accept constructive feedback and use setbacks to adjust my learning journey in order to reach my goals.
AA4 (9-12) I can create opportunities to extend my learning by remaining open-minded in any situation.
AA2 (9-12) I can assess my past successes and mistakes to change my approach.
TI2 (9-12) I can evaluate my objectives and a variety of credible resources to find the best solutions for any challenge.
CCE2 (9-12) I can give and receive actionable and relevant feedback with openness to be able to determine meaningful revisions for success.</td></tr>
<tr><td>Understandings: Students will understand that…
Community resources and activities available
How an individual contributes to a community successes and failures
Small choices can make big changes in future planning
Your choices can help shape your educational career and school life.</td><td>Essential Questions:
What resources are available to me in my own community?
How can I contribute to my community in a meaningful way?
How can I make small choices now that can affect my own future?
How can I be a part of my own education choices and planning?</td></tr>
<tr><td>Students will know…</td><td>Students will be able to…</td></tr>
</table>

● How to find community resources and community leaders ● Activities and opportunities to help our community as an individual ● How to choose classes and activities that align with future goals and interests ● How to create a future educational plan to help reach their future goals	● Find community resources and activities in their own towns ● Plan a community project or volunteer opportunity within their community ● Create a future plan for classes for their next two years to help support their goals ● Choose classes that align with their own interests and strengths

Key Vocabulary: Independence, transition, community partnerships, extracurricular,volunteer, MBLE

Assessment Evidence

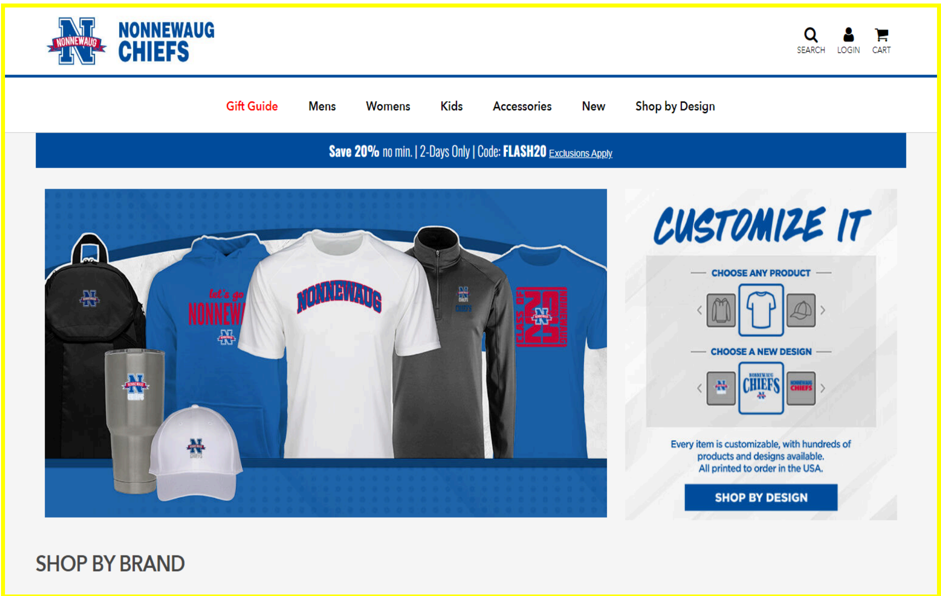
Performance Tasks:	**Other Evidence:**
Summatives ★ Create three ideas for a community improvement project ★ Plan their classes and choices for the next year through the program of studies	Interims ★ Community research sheet ★ Program of Studies ★ Life planning sheet ★ Future classes planning

Learning Plan

- ★ P3 (9-12) I can accept constructive feedback and use setbacks to adjust my learning journey in order to reach my goals.
  - Summative One
  - Interim Three
- ★ AA4 (9-12) I can create opportunities to extend my learning by remaining open-minded in any situation.
  - Interim Two
  - Interim Four
  - Inventories and Assessments
- ★ AA2 (9-12) I can assess my past successes and mistakes to change my approach.
  - Interim One
  - Personal Interviews

★ TI2 (9-12) I can evaluate my objectives and a variety of credible resources to find the best solutions for any challenge. ○ Summative One ○ Interim One ★ CCE2 (9-12) I can give and receive actionable and relevant feedback with openness to be able to determine meaningful revisions for success. ○ Summative Two ○ Interim Four
Teacher Resources: ★ Program of Studies ★ Future classes planning tool ★ Community tools ★ Workplace inventories ★ Community resources

MARKETING CURRICULUM



REGION 14 SCHOOL DISTRICT
VISION OF A LEARNER

Grade Level(s):9-12

Curriculum Author(s): Devon Bares & Adam Lengyel

Course Description: Marketing is an introductory course that focuses on marketing theory and concepts, economics, international business, salesmanship and promotion. Exploring this growing and dynamic field offers students exposure to the vast marketing system that exists both globally and within the United States. Marketing will emphasize marketing terms and concepts, preparing students for Advanced Marketing and experience working in the Nonnewaug School Store. Marketing is highly recommended for sophomores and juniors who can then take Marketing II in one of the following academic years. Marketing I students are encouraged to join FBLA or DECA, and participate in the state-wide competitions. Students must enroll in Marketing in order to join DECA. All Students who pass Marketing with a “C” or better will have the opportunity to attain college credit through the Post University High School Academy.

Year At A Glance			
Unit Title	**Overarching Essential Question**	**Overarching Enduring Understanding**	**Vision of A Learner "I Can" Statements**
Introduction to Marketing	What are the key concepts and strategies of marketing that influence consumer decisions and drive business success?	Marketing is a process that involves understanding consumer needs, developing strategies to meet those needs, and effectively communicating value to create lasting relationships.	TCC1(9-12), TCC4(9-12), CCE4(9-12), DE1(9-12), P1(9-12), AA4(9-12)
Economic Factors in Marketing	How do economic conditions and trends influence consumer behavior and marketing strategies?	Economic factors significantly impact consumer behavior and shape marketing strategies.	TCC1(9-12), TCC4(9-12), CCE4(9-12), DE1(9-12), P1(9-12), AA4(9-12)
International Business	How do cultural, economic, and political differences impact marketing strategies in international markets?	Successful international business requires an understanding of diverse cultural, economic, and regulatory environments to effectively develop and implement marketing strategies that resonate with global consumers.	TCC1(9-12), TCC4(9-12), CCE4(9-12), DE1(9-12), P1(9-12), AA4(9-12)
Business Ethics	How do ethical considerations shape business practices and influence consumer trust in the marketplace?	Ethical business practices are essential for building trust, fostering positive relationships with stakeholders, and ensuring long-term success in the marketplace.	TCC1(9-12), TCC4(9-12), CCE4(9-12), DE1(9-12), P1(9-12), AA4(9-12)
Selling	How do effective selling strategies create value for customers and drive business success?	Successful selling involves understanding customer needs, utilizing effective communication strategies, and building long-term relationships to create value for both the customer and the business.	TCC1(9-12), TCC4(9-12), CCE4(9-12), DE1(9-12), P1(9-12), AA4(9-12)
Promotion	How do effective promotional strategies influence consumer behavior and drive business success?	Effective promotion integrates various strategies and media to communicate value, engage target audiences, and ultimately drive consumer behavior and business outcomes.	TCC1(9-12), TCC4(9-12), CCE4(9-12), DE1(9-12), P1(9-12), AA4(9-12)

Unit 1 - Introduction to Marketing

Desired Results - Goals, Transfer, Meaning, Acquisition

Established Goals:
Standard: Understands the concepts and strategies utilized to determine and target marketing strategies to a select audience
Performance Element: Select target market appropriate for product/business to obtain the best return on marketing investment (ROMI).
Performance Indicators:
Explain the concept of market and market identification (MP:003, LAP-MP-003) (CS)
Identify market segments (MP:004) (MN)
Develop customer profile (MP:031) (MN)
Select target market (MP:005) (MN)

Performance Element: Employ marketing-information to plan marketing activities.
Performance Indicators:
Explain the nature of marketing planning (MP:006) (SP)
Explain the nature of marketing plans (MP:007, LAP-MP-007) (SP)
Explain the role of situation analysis in the marketing planning process (MP:008) (SP)
Conduct market analysis (market size, area, potential, etc.) (MP:009) (MN)
Conduct SWOT analysis for use in the marketing planning process (MP:010, LAP-MP-010) (MN)
Assess global trends and opportunities (MP:011) (MN)
Conduct competitive analysis (MP:012) (MN)
Explain the nature of sales forecasts (MP:013, LAP-MP-013) (SP)
Forecast sales for marketing plan (MP:014) (MN)
Set marketing goals and objectives (MP:015) (MN)
Select marketing metrics (MP:016) (MN)
Set marketing budget (MP:017) (MN)
Develop marketing plan (MP:018) (MN)

All standards are pulled from [Standards | Business Education Guidelines | MBA Research]
Marketing Cluster (PQ) = Prerequisite; (CS) = Career-sustaining; (SP) = Specialist; (SU) = Supervisor; (MN) = Manager; (ON) = Owner

Vision of A Learner Attributes: Students will be able to independently use their learning to... ("I can" statements to be demonstrated)
TCC1(9-12): I can ask purposeful, insightful questions to find a variety of innovative solutions.
TCC4(9-12): I can integrate my learning to adapt to experiences in the classroom, career and life.
CCE4(9-12): I can communicate and express my understanding in an authentic, respectful and relevant way, using the most effective mode of expression.

DE1(9-12): I can acknowledge, process, and respond appropriately to others' comments and perspectives.
P1(9-12): I can self-reflect and seek feedback to build upon my strengths, apply those strengths to overcome obstacles, and share my strategies with others.
AA4(9-12): I can create opportunities to extend my learning by remaining open-minded in any situation

Understandings: Students will understand that...
- Marketing can impact how we perceive ourselves and others and can influence all aspects of our lifestyle.
- Marketing influences the economy, the job market, the quality of products through competition, and the prices we pay for goods and services.
- All aspects of the marketing mix are essential
- All businesses have a target market
- Marketers have a customer in mind during product development and this image drives their decisions.
- Marketing relies on data and research to understand customer needs and preferences.

Essential Questions:
- How does marketing impact our lives?
- What is the most crucial part of the marketing mix?
- How do marketers identify their customers?
- What role does competition play in determining product quality, price, and availability?
- How do marketers balance creativity with strategy to effectively reach customers?
- Why is understanding the target audience crucial for successful marketing, and how can marketers effectively gather and apply customer insights?

Students will know...
- The definition and purpose of marketing in both business and society.
- The elements of the marketing mix: product, price, place, and promotion.
- How consumer behavior and psychology influence marketing strategies.
- The role of market research in identifying and understanding target audiences.
- The impact of competition on pricing, quality, and product innovation.
- How cultural and global factors influence marketing strategies and consumer preferences.

Students will be able to...
- Explain the concept of market and market identification
- Explain the concept of marketing strategies
- Describe the nature of target marketing in marketing communication
- Define a target market and the factors impacting target market selection
- Explain the relationship between market segmentation and consumer behavior.
- Describe the role of consumer behavior in strategic marketing planning
- Describe the purpose and components of marketing plans
- Explain the SWOT Analysis
- Students interpret, analyze and evaluate text in order to extend understanding and appreciation.
- Students communicate with others to create interpretations of written, oral and visual texts.

Key Vocabulary: Marketing, Consumer Behavior, Target Market, Market Research, Branding, Marketing Mix, Product Lifecycle, Segmentation, Positioning, Value Proposition, Demographics, Psychographics, Promotion, Pricing Strategy, Advertising, Public Relations, Sales Promotion,

Digital Marketing, Customer Relationship Management (CRM), Competitive Advantage	
Assessment Evidence	
Performance Tasks: Summative: Students will complete the 30 under 30 assignment which will require a presentation for the class. The assessment requires students to choose a business from Forbes 30 under 30 and justify the need for a marketing department at the company. In their justification students will answer the essential questions and use the concepts highlighted in the enduring understandings above.	**Other Evidence:** Interim: Students will complete a research assignment, “traditional” multiple choice/short answer assessment, Performance based assessment and review quiz
Learning Plan	
• Participate in class discussions and activities that explore Market ID, functions of marketing and the marketing mix.TCC1(9-12), DE1 (9-12) • Analyze and interpret graphs and data related to business growth, sales and market segmentation.TCC1(9-12) • Complete individual or group projects that apply the concepts of market ID, functions, marketing mix and connect to real-world situations.CCE4 (9-12) • Practice problem-solving skills by working on exercises and quizzes that test their understanding of the foundations of marketing and the marketing mix.TCC1 (9-12) • Reflect on their learning and connect it to their own lives and experiences.TCC4(9-12), AA4 (9-12)	
Teacher Resources: Glencoe Marketing Essentials Text, MSNBC original business documentaries via YouTube (McDonalds, Costco), Forbes 30 under 30, Census.gov, ABC’s Shark Tank, “The Profit” Series	

Unit 2 - Economic Factors in Marketing	
Desired Results - Goals, Transfer, Meaning, Acquisition	
Established Goals: **Instructional Area: Economics (EC) S** **Standard: Understands the economic principles and concepts fundamental to business operations** **Performance Element: Understand global trade's impact to aid business decision-making.** **Performance Indicators:** Identify the effects of global trade on retailing (EC:094) (SP) Explain current retail trends driven by global trade (EC:102) (SP) **Performance Element: Interpret analytical patterns to predict/analyze consumer behavior.** **Performance Indicators:** Predict demand patterns (IM:385) (MN) Conduct demand analysis (IM:317) (MN) Forecast changes in customer expectations (IM:360) (MN) Evaluate product usage (IM:354) (MN) Analyze purchasing behavior and supply (IM:305) (MN) Estimate repeat purchase rate (IM:352) (M) *All standards are pulled from [Standards | Business Education Guidelines | MBA Research]* *Marketing Cluster (PQ) = Prerequisite; (CS) = Career-sustaining; (SP) = Specialist; (SU) = Supervisor; (MN) = Manager; (ON) = Owner*	
Vision of A Learner Attributes: Students will be able to independently use their learning to... ("I can" statements to be demonstrated) TCC1(9-12): I can ask purposeful, insightful questions to find a variety of innovative solutions. TCC4(9-12): I can integrate my learning to adapt to experiences in the classroom, career and life. CCE4(9-12): I can communicate and express my understanding in an authentic, respectful and relevant way, using the most effective mode of expression. DE1(9-12): I can acknowledge, process, and respond appropriately to others' comments and perspectives. P1(9-12): I can self-reflect and seek feedback to build upon my strengths, apply those strengths to overcome obstacles, and share my strategies with others. AA4(9-12): I can create opportunities to extend my learning by remaining open-minded in any situation	
Understandings: Students will understand that... ● Economic conditions influence consumer purchasing power and spending habits. ● Supply and demand and its impact on pricing and product	**Essential Questions:** ● How do economic conditions influence the choices consumers make? ● In what ways do supply and demand affect product pricing and

availability. ● Economic indicators are essential when measuring the overall health of an economy ● Inflation affects the cost of goods ● Exchange rates influence the cost and availability of goods. ● Employment rates can be a strong indicator of overall economic well being. ● Government policies affect pricing ● Economic systems can differ around the world. ● Economic cycles (recession, growth, etc.) impact business strategies and consumer behavior.	availability? ● How does inflation impact both businesses and consumers? ● Why are exchange rates important in determining the cost of imported and exported goods? ● How does the employment rate shape consumer confidence and spending habits? ● How do government policies like taxes and tariffs affect marketing? ● How do different economic systems affect a population? ● Why is an understanding of economic cycles important?
Students will know... ● The impact of supply and demand on pricing and product availability. ● How inflation affects costs, prices, and consumer purchasing power. ● The role of exchange rates in international marketing and trade. ● How employment rates influence consumer spending and overall economic stability. ● How government policies, including taxes and tariffs, influence marketing strategies and product costs. ● The characteristics of different economic systems ● The phases of economic cycles (growth, recession) and their effects on business strategy. ● The role of global economic factors, such as trade agreements, on local markets. ● How economic indicators (e.g., GDP, CPI) are used to assess economic health	**Students will be able to...** ● Analyzing supply and demand trends to assess their impact on pricing and availability. ● Interpreting economic indicators (like GDP, CPI, unemployment rates) to evaluate market conditions. ● Identifying how inflation influences consumer behavior and business pricing strategies. ● Understanding and calculating the effects of exchange rates on international marketing. ● Evaluating the impact of government policies, such as taxes and tariffs, on marketing decisions. ● Compare different economic systems ● Recognizing the stages of economic cycles and how to adjust marketing strategies accordingly. ● Analyzing the effects of global economic trends ● Applying economic knowledge to make informed marketing decisions.
Key Vocabulary: Consumer Price Index (CPI), Deflation, Economic Cycle, Economic Growth, Exchange Rate, GDP, Inflation, Market Segmentation, Market Structure, Monopoly, Oligopoly, Price Elasticity, Recession, Supply, Tariff, Taxation, Unemployment Rate, Demand, Consumer Confidence Index	
Assessment Evidence	
Performance Tasks: Summative: The economics and FES Summative will require students to answer a series of short answer and case study questions. Graphs	**Other Evidence:** Interim: Economic Comparisons activity using CIA world Factbook,Create a supply and demand curve using google

and data will be provided for students to analyze and they must also read text and answer comprehension questions that follow.	sheets/Microsoft Excel, Multiple choice/short answer assessment.
Learning Plan	
- Participate in class discussions and activities that explore the basics of economics, economic systems and free enterprise.TCC1(9-12), DE1 (9-12) - Analyze and interpret graphs and data related to supply, demand, equilibrium, shortages and surplus.TCC1(9-12) - Complete individual or group projects that apply the concepts of economics and free enterprise and connect to real-world situations.CCE4 (9-12) - Practice problem-solving skills by working on exercises and quizzes that test their understanding of the foundations of economics and the free enterprise system.TCC1 (9-12) - Reflect on their learning and connect it to their own lives and experiences.TCC4(9-12), AA4 (9-12)	
Teacher Resources: Glencoe Marketing Essentials Text, 60 minutes documentaries via YouTube (Luxottica),MRU University supply and demand unit plan,Federal agency database, ABC's Shark Tank, PBS Amazon Empire, Monopoly	

Unit 3 - International Business	
Desired Results - Goals, Transfer, Meaning, Acquisition	
Established Goals: **Standard:** **Understands risk-management strategies and techniques used to minimize business loss** **Performance Element:** **Acquire a foundational understanding of risk management to demonstrate knowledge of its nature and scope.** **Performance Indicators:** Explain the role of ethics in risk management (RM:041, LAP-RM-041) (SP) Describe the use of technology in risk management (RM:042) (SP) Discuss legal considerations affecting risk management (RM:043) (SP) Describe international considerations affecting risk management (RM:092) (SP) Describe trends in international distribution systems (OP:508) (SP) Explain international transportation and delivery system elements (OP:510) (SP) Discuss sampling issues with international marketing research projects (IM:438) (SP) Identify questionnaire design issues for international marketing research projects (IM:448) (MN) Determine issues associated with interpretation of international marketing research data (IM:453) Manage issues associated with international marketing research studies (IM:462) (MN) Determine final cost of purchases from domestic and international sources (PM:193) (SP) *All standards are pulled from [Standards | Business Education Guidelines | MBA Research]* *Marketing Cluster (PQ) = Prerequisite; (CS) = Career-sustaining; (SP) = Specialist; (SU) = Supervisor; (MN) = Manager; (ON) = Owner*	
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Understandings: Students will understand that... ● International marketing is essential for businesses to remain	**Essential Questions:** ● What criteria should businesses use when selecting an

competitive. ● Political and economic factors are important for the success of international business. ● Increasing international trade introduces both business opportunities and risk. ● Cultural and social factors can vary widely across countries, affecting consumer behavior and business practices. ● Trade barriers and incentives can shape the international business landscape and impact decision-making. ● Different countries have distinct guidelines and regulations governing business conduct, which can affect international operations.	emerging market for their products? ● How do political and economic environments impact international business operations? ● In what ways does international trade affect local and global market conditions? ● How can businesses effectively navigate cultural differences in international markets? ● What role do ethical considerations play in decision-making within international business? ● How do trade barriers and incentives influence companies' strategies for entering foreign markets? ● What are the key challenges businesses face when operating in a global market?
Students will know... ● The significance of international marketing for maintaining competitiveness in a global economy. ● The impact of political and economic factors on market selection ● An understanding of how trade agreements shape the landscape of international business. ● The role of cultural and social differences in consumer behavior and business practices across countries. ● The definitions and principles of business ethics and social responsibility. ● The effects of international trade on local economies and global market conditions. ● The classification of businesses based on their physical and financial characteristics.	**Students will be able to...** ● Analyze and evaluate the impact of political and economic factors on international business decisions. ● Identify and assess trade barriers and incentives that affect global market entry strategies. ● Conduct market research to understand cultural and social differences in target markets. ● Formulate and present a comprehensive international marketing strategy for a product or service. ● Use data analysis tools to interpret trade data and economic indicators relevant to international business.
Key Vocabulary: Balance Of Trade, Business Ethics, Cultural Differences, Economic Factors, Emerging Markets, Foreign Direct Investment, Globalization, International Trade, Market Entry Strategies, Multinational Corporation, Political Environment, Trade Barriers, Trade Incentives, Social Responsibility, Consumer Behavior, Corporate Governance, Ethical Standards, Market Research, Stakeholder Management, Supply Chain Management.	
Assessment Evidence	
Performance Tasks:	**Other Evidence:**

Summative: Students will complete a performance based assessment requiring them to move a domestic company into a new international market. The end product will be a presentation incorporating the knowledge acquired in the enduring understandings listed above	Interim: Students will watch videos showing real world examples of the above concepts. Students will also analyze trade agreements and their effect on global economic conditions.
Learning Plan	
• Participate in class discussions and activities that explore the basics of international business, trade agreements and the strategies used by marketers to move a product/service into a foreign market.TCC1(9-12), DE1 (9-12) • Analyze and interpret graphs and data related to exchange rates and international sales.TCC1(9-12) • Complete individual or group projects that apply the concepts of international business/marketing and connect to real-world situations.CCE4 (9-12) • Practice problem-solving skills by working on exercises and quizzes that test their understanding of the foundations of international business and marketing.TCC1 (9-12) • Reflect on their learning and connect it to their own lives and experiences.TCC4(9-12), AA4 (9-12)	
Teacher Resources: Glencoe Marketing Essentials Text, 60 minutes documentaries via YouTube (Dubai, Mcdonalds,KFC,Apple),MRU University International business unit plan, World Trade Organization online resources, CIA World factbook, ABC's Shark Tank	

Unit 4 - Business Ethics
Desired Results - Goals, Transfer, Meaning, Acquisition
Established Goals: **Instructional Area:** **Emotional Intelligence (EI)** **Standard: Understands techniques, strategies, and systems used to foster self-understanding and enhance relationships with others** **Performance Element:** **Apply ethics to demonstrate trustworthiness to staff.** Performance Indicators: Use ethics in staff supervision (EI:078) (SU) **Performance Element:** **Adhere to a professional code of ethics to guide business decisions.** Performance Indicators: Discuss factors to consider in developing a managerial code of ethics (PD:261) (MN) Utilize an established professional code of ethics (PD:262) (MN) **Performance Element:** **Apply ethics to demonstrate trustworthiness to staff.** Performance Indicators: Explain the nature of managerial ethics (EI:079) (MN) **Performance Element:** **Adhere to a professional code of ethics to guide business decisions.** Performance Indicators: Discuss factors to consider in developing a managerial code of ethics (PD:261) (MN) Utilize an established professional code of ethics (PD:262) (MN) Explain business ethics in product/service management (PM:040, LAP-PM-040) (SP) Explain the role of ethics in marketing-information management (IM:025, LAP-IM-025) (SP) Describe the role of business ethics in pricing (PI:015) (SP) Describe the use of business ethics in promotion (PR:099) (SP) Apply ethics to digital communications (EI:073) (CS) *All standards are pulled from [Standards | Business Education Guidelines | MBA Research]* *Marketing Cluster (PQ) = Prerequisite; (CS) = Career-sustaining; (SP) = Specialist; (SU) = Supervisor; (MN) = Manager; (ON) = Owner*
Vision of A Learner Attributes: Students will be able to independently use their learning to... (“I can” statements to be demonstrated)

TCC1(9-12): I can ask purposeful, insightful questions to find a variety of innovative solutions. TCC4(9-12): I can integrate my learning to adapt to experiences in the classroom, career and life. CCE4(9-12): I can communicate and express my understanding in an authentic, respectful and relevant way, using the most effective mode of expression. DE1(9-12): I can acknowledge, process, and respond appropriately to others' comments and perspectives. P1(9-12): I can self-reflect and seek feedback to build upon my strengths, apply those strengths to overcome obstacles, and share my strategies with others. AA4(9-12): I can create opportunities to extend my learning by remaining open-minded in any situation

Understandings: Students will understand that... ● Business ethics in marketing means following moral rules ● Ethical marketing helps build trust with customers, ● Dishonest or misleading advertising can lead to serious legal problems and damage a brand's credibility. ● Marketers need to find a balance between making money and being ethical ● Being open and honest in marketing helps build trust and improves relationships with customers ● Ethical challenges can happen in marketing, and it’s important to think critically and make good decisions ● Corporate social responsibility (CSR) programs can improve a company’s marketing by showing their commitment to being ethical and making a positive impact on society, which benefits both the community and the business.	**Essential Questions:** ● How do ethical choices affect marketing strategies and campaigns? ● How can marketing practices influence consumer trust and brand loyalty? ● What happens if a company uses misleading advertising or dishonest marketing? ● How can marketers find a balance between making money and being responsible to consumers? ● What does being open and honest mean in marketing, and how can companies do it well? ● What can marketers do when they face ethical problems in their campaigns? ● How does corporate social responsibility (CSR) help or make things harder for marketing efforts
Students will know... ● The definition of business ethics and its relevance to marketing practices. ● The principles of ethical decision-making ● The impact of misleading advertising ● The importance of transparency and honesty in marketing ● How corporate social responsibility (CSR) initiatives influence marketing strategies and consumer perceptions.. ● Strategies for addressing and resolving ethical dilemmas ● The benefits of ethical marketing for long-term business success.	**Students will be able to...** ● Analyze tough choices in marketing and think about how those decisions affect different groups of people. ● Create guidelines to help make ethical decisions in marketing. ● Clearly explain ethical issues ● Work together to solve ethical problems in marketing situations.. ● Learn how to keep a businesses trust and reputation strong by using ethical marketing practices. ● Think about how marketing strategies affect society

Key Vocabulary: Accountability, Brand Integrity, Corporate Social Responsibility (CSR), Data Privacy, Deceptive Advertising, Ethical Dilemma,

Ethical Decision-Making, Ethical Leadership, Fairness, Transparency, Greenwashing, Honesty, Informed Consent, Integrity, Inclusivity, Misleading Advertising, Sustainability, Trustworthiness, Whistleblowing, Stakeholders.

Assessment Evidence	
Performance Tasks: Summative: Students will complete a research assignment, “traditional” multiple choice/short answer assessment,	**Other Evidence:** Interim: Students will complete a research assignment and ethical dilemmas case study. There will also be a role play assessment for the class.

Learning Plan
● Participate in class discussions and activities that explore the basics of business ethics, ethical guidelines and social responsibility.TCC1(9-12), DE1 (9-12) ● Analyze and interpret graphs and data related to corporate social responsibility and the ROI of these programs.TCC1(9-12) ● Complete individual or group projects that apply the concepts of ethics and social responsibility and connect to real-world situations.CCE4 (9-12) ● Practice problem-solving skills by working on exercises and quizzes that test their understanding of the foundations of business ethics and social responsibility.TCC1 (9-12) ● Reflect on their learning and connect it to their own lives and experiences.TCC4(9-12), AA4 (9-12)
Teacher Resources: Glencoe Marketing Essentials Text, Fortune’s best companies to work for, Ethisphere world's most ethical companies, Ethical Case studies Michigan State University, Ethical dilemma Peer to Peer training, ABC’s Shark Tank

Unit 5 - Selling

Desired Results - Goals, Transfer, Meaning, Acquisition

Established Goals:

Instructional Area:
Selling (SE)
Standard: Understands the concepts and actions needed to determine client needs and wants and respond through planned, personalized communication that influences purchase decisions and enhances future business opportunities
Performance Element: Acquire a foundational knowledge of selling to understand its nature and scope.
Performance Indicators:
Explain the nature and scope of the selling function (SE:017, LAP-SE-017) (CS)
Explain the role of customer service as a component of selling relationships (SE:076, LAP-SE-076) (CS)
Explain company selling policies (SE:932, LAP-SE-932) (CS)
Explain key factors in building a clientele (SE:828, LAP-SE-828) (SP)
Explain legal and ethical considerations in selling (SE:106, LAP-SE-106) (SP)
Describe the use of technology in the selling function (SE:107) (SP)
Performance Element: Acquire product knowledge to communicate product benefits and to ensure appropriateness of product for the customer. Performance Indicators:
Acquire product information for use in selling (SE:062, LAP-SE-062) (CS)
Analyze product information to identify product features and benefits (SE:109, LAP-SE-109) (SP)
Performance Element: Understand sales processes and techniques to enhance customer relationships and to increase the likelihood of making sales.
Performance Indicators:
Explain the selling process (SE:048, LAP-SE-048) (CS)
Discuss motivational theories that impact buying behavior (SE:359) (SP)

All standards are pulled from [Standards | Business Education Guidelines | MBA Research]
Marketing Cluster (PQ) = Prerequisite; (CS) = Career-sustaining; (SP) = Specialist; (SU) = Supervisor; (MN) = Manager; (ON) = Owner

Vision of A Learner Attributes: Students will be able to independently use their learning to... ("I can" statements to be demonstrated)
- TCC1(9-12): I can ask purposeful, insightful questions to find a variety of innovative solutions.
- TCC4(9-12): I can integrate my learning to adapt to experiences in the classroom, career and life.
- CCE4(9-12): I can communicate and express my understanding in an authentic, respectful and relevant way, using the most effective mode of expression.
- DE1(9-12): I can acknowledge, process, and respond appropriately to others' comments and perspectives.

P1(9-12): I can self-reflect and seek feedback to build upon my strengths, apply those strengths to overcome obstacles, and share my strategies with others.
AA4(9-12): I can create opportunities to extend my learning by remaining open-minded in any situation

Understandings: Students will understand that...
- A good sales plan is important for guiding sales efforts and being successful in the market..
- Building strong relationships through follow-ups and outreach is key to creating customer loyalty and getting repeat business.
- Good communication skills are essential for salespeople to connect with customers
- Understanding how customers think and make decisions helps salespeople adapt their approach for each person.
- Simple math skills are important for making smart sales decisions
- Practicing through role-playing gives valuable experience for developing sales techniques
- Working together as a team is crucial in sales

Essential Questions:
- What are the main parts of a good sales plan?
- How does knowing product details and analyzing competitors make a salesperson more effective?
- What strategies can salespeople use to build customer relationships?
- How can good communication skills help a salesperson connect with customers?
- Why is practice and role-playing important for preparing salespeople for real-life selling situations?
- How can teamwork and working together among sales team members improve sales results?

Students will know...
- Knowing about the product and understanding competitors are important for being successful in sales
- Good ways to build and keep customer relationships include following up with them after sales.
- Strong communication skills are needed to engage customers
- Understanding consumer behavior helps us know how people make buying decisions
- Basic math skills are needed for pricing, calculating discounts, and understanding sales data.
- Practicing selling skills through role-playing helps build confidence
- Working as a team is important in sales to reach common goals

Students will be able to...
- Create and carry out a complete sales plan.
- Learn about the product and analyze competitors effectively.
- Keep accurate and legal records of sales transactions.
- Use good communication skills to engage and persuade customers.
- Use math skills for pricing, calculating discounts, and analyzing sales data.
- Practice role-playing different selling situations
- Work with team members to reach sales goals

Key Vocabulary: Sales Plan, Customer Relationship Management (CRM), Product Knowledge, Competitor Analysis, Follow-Up, Closing Techniques, Lead Generation, Sales Pitch, Objection Handling, Value Proposition, Prospecting, Sales Funnel, Direct Sales, Consultative Selling, Upselling, Cross-Selling, Sales Metrics, Conversion Rate, Pricing Strategy, Target Market.

Assessment Evidence

Performance Tasks: Summative: Performance based assessment requiring students to create a product from scratch. This will also include a written assessment requiring students to use the skills/knowledge attained in the enduring understandings above.	**Other Evidence:** Interim: “traditional” multiple choice/short answer assessment, Analyze sales techniques used in elevator pitch, define types of persuasion sales people may use

Learning Plan

- Participate in class discussions and activities that explore the basics of the sales process and techniques used by salespeople in the field.TCC1(9-12), DE1 (9-12)
- Analyze and interpret graphs and data related to sales leads and effective techniques.TCC1(9-12)
- Complete individual or group projects that apply the concepts within the sales process and connect to real-world situations.CCE4 (9-12)
- Practice problem-solving skills by working on exercises and quizzes that test their understanding of the foundations of selling and persuasion.TCC1 (9-12)
- Reflect on their learning and connect it to their own lives and experiences.TCC4(9-12), AA4 (9-12)

Teacher Resources: Glencoe Marketing Essentials Text,The Founder (movie), Youtube’s Science of Persuasion, Sales manual samples, ABC’s Shark Tank

Unit 6 - Promotion
Desired Results - Goals, Transfer, Meaning, Acquisition
Established Goals: **Instructional Area:** **Promotion (PR)** **Standard: Understands the concepts and strategies needed to communicate information about products, services, images, and/or ideas to achieve a desired outcome** **Performance Element: Acquire a foundational knowledge of promotion to understand its nature and scope.** **Performance Indicators:** Explain the role of promotion as a marketing function (PR:001, LAP-PR-901) (CS) Explain the types of promotion (i.e., institutional, product) (PR:002, LAP-PR-902) (CS) Identify the elements of the promotional mix (PR:003, LAP-PR-001) (SP) Describe the use of business ethics in promotion (PR:099) (SP) Describe the use of technology in the promotion function (PR:100) (SP) Describe the regulation of promotion (PR:101) (SP) **Performance Element: Understand promotional channels used to communicate with targeted audiences.** **Performance Indicators:** Explain types of advertising media (PR:007, LAP-PR-007) (SP) Describe word-of-mouth channels used to communicate with targeted audiences (PR:247) (SP) Explain the nature of direct marketing channels (PR:089) (SP) Identify communications channels used in sales promotion (PR:249) (SP) Explain communications channels used in public-relations activities (PR:250) (SP) **Performance Element: Understand the use of an advertisement's components to communicate with targeted audiences.** **Performance Indicators:** Explain the components of advertisements (PR:014) (SP) Explain the importance of coordinating elements in advertisements (PR:251) (SP) **Performance Element: Understand the use of public-relations activities to communicate with targeted audiences.** **Performance Indicators:** Identify types of public-relations activities (PR:252) (SP) Discuss internal and external audiences for public-relations activities (PR:253) (SP) *All standards are pulled from [Standards | Business Education Guidelines | MBA Research]* *Marketing Cluster (PQ) = Prerequisite; (CS) = Career-sustaining; (SP) = Specialist; (SU) = Supervisor; (MN) = Manager; (ON) = Owner*

Vision of A Learner Attributes: Students will be able to independently use their learning to... ("I can" statements to be demonstrated) TCC1(9-12): I can ask purposeful, insightful questions to find a variety of innovative solutions. TCC4(9-12): I can integrate my learning to adapt to experiences in the classroom, career and life. CCE4(9-12): I can communicate and express my understanding in an authentic, respectful and relevant way, using the most effective mode of expression. DE1(9-12): I can acknowledge, process, and respond appropriately to others' comments and perspectives. P1(9-12): I can self-reflect and seek feedback to build upon my strengths, apply those strengths to overcome obstacles, and share my strategies with others. AA4(9-12): I can create opportunities to extend my learning by remaining open-minded in any situation

Understandings: Students will understand that... ● Good advertising is important for businesses to grow and influence how people make choices. ● All parts of the promotional mix work together to create a strong plan for reaching and engaging the right audience. ● Different types of media have their own benefits and challenges. ● Public relations are important for keeping a company's image positive and building good relationships with important people. ● Online and mobile advertising needs special strategies to effectively reach and engage digital consumers. ● We can measure how well promotional campaigns work by looking at reach, engagement, and conversion rates. ● Understanding how consumers think and what they prefer should guide how we create promotional strategies and campaigns.	**Essential Questions:** ● How does good advertising affect how people buy things and make choices? ● What are the main parts of the promotional mix, and how do they work together to reach marketing goals? ● How do different types of media change how many people see and engage with promotional messages? ● What is the role of public relations in building a company's reputation and keeping good relationships with people involved? ● What are the best ways to create effective online and mobile ads? ● How can we measure and check the success of promotional campaigns?
Students will know... ● The main parts of the promotional mix and how they help in marketing plans. ● Different types of media used in advertising and their benefits and drawbacks. ● Why public relations is important for creating and keeping a good brand image. ● How to use word-of-mouth marketing to increase brand awareness. ● The basics of online and mobile advertising, including how to target and engage customers.	**Students will be able to...** ● Choose the right types of media for different ads. ● Make eye-catching promotional materials that share brand messages clearly. ● Write strong public relations messages to improve the brand's image and connect with people. ● Use word-of-mouth marketing to get customers to share recommendations. ● Create and manage online and mobile ads that reach specific groups of people. ● Check how well promotional campaigns work using important

• The importance of knowing what consumers like and want when creating promotions.	measurements. • Explain promotional plans and results clearly in writing and speaking.

Key Vocabulary: Advertising, Promotional Mix, Target Audience, Media Channels, Brand Awareness, Public Relations, Social Media Marketing, Content Marketing, Direct Marketing, Event Sponsorship, Visual Merchandising, Sales Promotion, Consumer Behavior, Reach, Engagement, Conversion Rate, Return on Investment (ROI), Marketing Strategy, Call to Action (CTA), Influencer Marketing.

Assessment Evidence	
Performance Tasks: Summative: Performance based assessment requiring students to design a product placement proposal for a brand/product of their choice using their enduring understandings from above. Create a promotional campaign complete with a budget, sample materials	**Other Evidence:** Interim: Students will design their social media marketing campaign and store loyalty program within the provided parameters. Design a new school store design that incorporates the aspects of promotion discussed throughout the unit

Learning Plan
• Participate in class discussions and activities that explore the basics of social media marketing, loyalty plans, product placement and other forms of promotion.TCC1(9-12), DE1 (9-12) • Analyze and interpret graphs and data related to ROI of a variety of promotional mediums.TCC1(9-12) • Complete individual or group projects that apply the basic promotional techniques discussed and connect to real-world situations.CCE4 (9-12) • Practice problem-solving skills by working on exercises and quizzes that test their understanding of the foundations of promotion.TCC1 (9-12) • Reflect on their learning and connect it to their own lives and experiences.TCC4(9-12), AA4 (9-12)
Teacher Resources: Glencoe Marketing Essentials Text, Shopify's social media marketing media kit, Youtube Product placement videos, Hollywood branded product placement simulation, Interbrands best promotional campaigns of all time, ABC's Shark Tank, CNBC original supermarkets Inc

Personal Finance ECE CURRICULUM

<table>
<tr><td></td><td></td></tr>
<tr><td>Grade Level(s): 11-12</td><td>Curriculum Author(s): Devon Bares & Adam Lengyel</td></tr>
<tr><td colspan="2">Course Description: This course will be similar to the traditional Personal Finance course offered in the description above but will be specifically aligned with Uconn’s financial literacy course with more advanced finance topics. In addition, the rigor will be more specific to that of a college level course and the content will go more in depth than the traditional. This course is open to students in the 11th and 12th grades that have had at least two years of high school level math.</td></tr>
</table>

Year At A Glance			
Unit Title	**Overarching Essential Question**	**Overarching Enduring Understanding**	**Vision of A Learner "I Can" Statements**
Behavioral Economics	How do your values impact your financial decision making?	Society places a lot of pressure on individuals to spend their money. It is important to take personal responsibility and determine values and behaviors that will put oneself on a path to financial success.	TCC4(9-12), CCE1(9-12), DE4(9-12), P3(9-12), AA1(9-12), AA4(9-12)
Banking	Why are banks important to personal financial security?	Banks are a vehicle that provides protection, growth and service (i.e. loans) opportunities needed to gain financial independence.	TCC4(9-12), CCE1(9-12), DE4(9-12), P3(9-12), AA1(9-12), AA4(9-12)
Paying for College (unique to ECE)	How should you plan for college expenses?	College is expensive, but the right plan can make your dream school a reality.	TCC4(9-12), CCE1(9-12), DE4(9-12), P3(9-12), AA1(9-12), AA4(9-12)
Investing	Why should you invest your money?	Money loses value over time. You must invest your money wisely if you want to grow your net worth over time.	TCC4(9-12), CCE1(9-12), DE4(9-12), P3(9-12), AA1(9-12), AA4(9-12)
Credit	How can credit be used responsibly?	Credit is a double edged sword. It can be helpful on your path to financial success but if it is not used wisely it can be harmful.	TCC4(9-12), CCE1(9-12), DE4(9-12), P3(9-12), AA1(9-12), AA4(9-12)
Taxes (unique to ECE)	How do you file taxes correctly and efficiently?	Paying taxes is a citizen's responsibility. Knowing how to do it correctly can save you time and money.	TCC4(9-12), CCE1(9-12), DE4(9-12), P3(9-12), AA1(9-12), AA4(9-12)

Budgeting	Why do I need a budget?	Budget provide the guardrails needed to pave the path towards financial freedom	TCC4(9-12), CCE1(9-12), DE4(9-12), P3(9-12), AA1(9-12), AA4(9-12)
Insurance	Why is insurance an important part of your financial plan?	Insurance provides protection from loss and is a necessary component to keep oneself on track.	TCC4(9-12), CCE1(9-12), DE4(9-12), P3(9-12), AA1(9-12), AA4(9-12)

<table>
<tr><th colspan="2">Unit 1 - Behavioral Economics</th></tr>
<tr><th colspan="2">Desired Results - Goals, Transfer, Meaning, Acquisition</th></tr>
<tr><td colspan="2">Established Goals:
(Saving) 9a: Explain how external influences (e.g. peers, family, or social media) can impact personal savings decisions
(Investing) 9a: Identify several behavioral biases that can result in poor investment decisions (e.g. loss aversion, mental accounting)
(Investing) 9b: Brainstorm methods for avoiding negative consequences from behavioral biases</td></tr>
<tr><td colspan="2">Vision of A Learner Attributes: Students will be able to independently use their learning to... (“I can” statements to be demonstrated)
TCC4(9-12): I can integrate my learning to adapt to experiences in the classroom, career and life.
CCE3(9-12): I can show initiative in prompting group discourse and fostering collaboration among others, providing actionable feedback, and working with others to solve problems and/or design products.
DE4(9-12): I can work respectfully with all members of my community and support the needs of others.
P3(9-12): I can accept constructive feedback and use setbacks to adjust my learning journey in order to reach my goals.
AA1(9-12): I can evaluate different approaches and justify the best pathway to success.
AA4(9-12): I can create opportunities to extend my learning by remaining open-minded in any situation.</td></tr>
<tr><td>Understandings: Students will understand that....
Common psychological biases, such as loss aversion, confirmation bias, and overconfidence, can lead to suboptimal financial choices.
Behavioral economics offers insights into strategies and interventions.
Social influences, including peer pressure, societal norms, and cultural factors, can significantly impact financial behaviors and attitudes.
Individuals can develop self-awareness, resilience, and adaptive strategies to navigate complex financial environments and improve their financial well-being.</td><td>Essential Questions:
What role does self-control play in personal finance?
What strategies can be used to overcome impulsive behavior and promote long-term financial stability?
How do social norms and peer pressure impact our financial choices?
What techniques can we use to resist societal pressures and make decisions that align with our personal financial goals?
How does framing affect our perceptions of financial options?
What are the psychological factors behind our attitudes towards risk?
How can a basic understanding of behavioral economics help us navigate risk management strategies to achieve our financial objectives?</td></tr>
<tr><td>Students will know...
How psychological biases, such as loss aversion and overconfidence, can influence their financial decision-making</td><td>Students will be able to...
Practice making financial decisions
Reflect on their personal values and how they can influence</td></tr>
</table>

processes. ● That behavioral economics offers insights into why individuals may make seemingly irrational financial choices. ● About various strategies and interventions derived from basic behavioral economics ● That social influences can impact their financial behaviors. ● The importance of self-awareness and reflection in personal finance.	their financial decisions ● Explore how values differ from person to person ● Explain what a cognitive bias is and how it can cause someone to make irrational decisions, particularly around money ● Explore and experience a variety of cognitive biases ● Define common cognitive biases humans have and explain how they might influence someone's financial decisions ● Identify signs of cognitive bias ● Explore steps someone can take to overcome cognitive bias
Key Vocabulary: Behavioral economics, Psychological biases, Loss aversion, Endowment effect, Self-control, Impulsive behavior, Social norms Peer pressure, Framing, Decision-making processes, Cognitive biases, Prospect theory, Anchoring, Confirmation bias, Availability heuristic Overconfidence bias, Herd mentality, Temporal discounting, Needs, Wants, Trade Offs, Opportunity Cost	
Assessment Evidence	
Performance Tasks: Student Activity Packets ● Your Values and Money ● Your Brain and Money ● Overcoming Cognitive Biases ● PLAY: Dollar Auction Game ● PLAY: The Bean Game	**Other Evidence:** Interim: MOVE: Your Cognitive Biases MOVE: Your Money Values Summative: Behavioral Economics Unit Test
Learning Plan	
NGPF Semester Long Curriculum Documents ● Students will explore how their values shape their money decisions in questionnaires and virtual learning labs TCC4(9-12) ● Discussion boards and questionnaires will be used to answer questions and view the thoughts and opinions of classmates and the instructor. CCE1(9-12) ● Students will work with others on group projects and assignments DE4(9-12) ● Self reflection assignments will be integrated to ensure that students can personalize the material P3(9-12) ● Students will use simulations and other instructional methods that are skill based and can adjust the content to what learning style fits best for them AA1(9-12) ● Group projects and assessments will provide opportunities for students to explore how the content can be used in the future. AA4(9-12)	
Teacher Resources: **NGPF Semester Course**	

Unit 2 - Banking
Desired Results - Goals, Transfer, Meaning, Acquisition
Established Goals: Saving 1a: Compare the features of regular savings accounts, money market accounts, and CDs 1b: Explain why CDs typically pay higher interest rates than regular savings accounts or interest-bearing checking accounts 2a: Select a preferred location for a savings account based on comparison of interest rates and fees at different types of financial institutions 3a: Research mobile payment account alternatives 3b: Compare and contrast the features of mobile payment accounts, cryptocurrency accounts, and checking/ savings accounts 4a: Illustrate how inflation can reduce the purchasing power of savings over time if the nominal interest rate is lower than the inflation rate 5a: Investigate the areas of financial institution operations that are subject to state and/or federal regulation and supervision 5c: Explain the importance of solvency regulation for financial institutions 9a: Explain how external influences (e.g. peers, family, or social media) can impact personal savings decisions 9b: Identify strategies to manage psychological and emotional obstacles to saving 9c: Discuss strategies for avoiding personal triggers that result in deviating from a savings plan 9d: Explain how the saving strategy “pay yourself first” can help people achieve their saving goals Spending 1a: Identify their short-term and long-term financial goals 1b: Develop a budget to allocate current income to necessary and desired spending, including estimates for both fixed and variable expenses 3b: Analyze the cost and features of three competing products or services Managing Credit 13a: Identify products and practices that are classified as alternative financial services 13b: Discuss the costs and benefits of using alternative financial services relative to traditional banking 13b: Discuss the costs and benefits of using alternative financial services relative to traditional banking Earning Income 5b: Evaluate the impact of technological advances on employment and income
Vision of A Learner Attributes: Students will be able to independently use their learning to... (“I can” statements to be demonstrated) TCC4(9-12): I can integrate my learning to adapt to experiences in the classroom, career and life. CCE3(9-12): I can show initiative in prompting group discourse and fostering collaboration among others, providing actionable feedback, and working with others to solve problems and/or design products. DE4(9-12): I can work respectfully with all members of my community and support the needs of others.

P3(9-12): I can accept constructive feedback and use setbacks to adjust my learning journey in order to reach my goals. AA1(9-12): I can evaluate different approaches and justify the best pathway to success. AA4(9-12): I can create opportunities to extend my learning by remaining open-minded in any situation.	
Understandings: Students will understand that… ● There are a variety of ways they can deposit and withdraw funds from their checking account. ● There are various components of a bank statement that help us interpret where our money goes. ● A variety of criteria should be considered when comparing checking and savings account options. ● Saving money has many personal and societal benefits. ● Online banking is a necessary tool that has many benefits. ● Online banking safeguards are important to personal security.	**Essential Questions:** ● What are the key differences between checking and savings accounts? ● How do banks generate revenue? ● What factors should we consider when selecting a bank for our checking and savings accounts? ● What are the benefits and risks associated with various types of payment methods, such as checks, debit cards, and electronic transfers? ● How does compound interest work?
Students will know... ● What a checking account is used for ● The important criteria to consider when selecting a savings account ● The common checking and saving account fees and how to avoid them ● The consequences of being unbanked ● What an emergency fund is for and how much to save up ● What a P2P payment is ● The advantages of online and mobile banking versus traditional banking ● How to bank safely online ● The pros and cons of a cashless society	**Students will be able to...** ● Explain the pros and cons of opening a checking account at a credit union ● Explain the difference between a checking and savings account ● Compare different savings vehicles such as a savings account, CD, and money market account ● Explain how overdraft protection works and the impact of overdraft fees ● Compare overdraft policies at major US banks ● Explain who is typically unbanked and the reasons that they are unbanked ● Compare payroll and prepaid cards to debit and credit cards ● Explore banking status in regions across the U.S ● Identify various rules of thumb and strategies to save money ● Brainstorm short, medium and long-term savings goals ● Identify everyday obstacles Americans experience when trying to save money ● Recognize the impact of inflation on savings ● Experience simulated challenges of living paycheck to paycheck ● List the pros and cons of digital wallets ● Set up a P2P account of their choice ● Compare and contrast various peer to peer payment apps

	• Explain what online bill pay is and how recurring payments work • Enumerate the benefits of direct deposit for their paychecks • Compare and contrast various peer-to-peer payment apps

Key Vocabulary: Checking account, Savings account, Interest rate, Overdraft fee, Minimum balance, ATM (Automated Teller Machine) Debit card, Direct deposit, Online banking, Mobile banking, Routing number, Account statement, Electronic funds transfer, Bank teller Certificate of deposit (CD), Money market account, Federal Deposit Insurance Corporation (FDIC), Bankruptcy, Credit union, Wire transfer

Assessment Evidence

Performance Tasks:	**Other Evidence:**
Student Activity Packets: Checking Accounts Savings Accounts Beware of Banking Fees Being Unbanked Strategies to Save Challenges to Saving Digital Wallets & P2P Apps Online and Mobile Banking	Interim: CASE STUDY: Bank on This CASE STUDY: Save Me! Summative: Banking Unit Test

Learning Plan

NGPF Semester Long Curriculum Documents

- Students will explore how their values shape their money decisions in questionnaires and virtual learning labs TCC4(9-12)
- Discussion boards and questionnaires will be used to answer questions and view the thoughts and opinions of classmates and the instructor. CCE1(9-12)
- Students will work with others on group projects and assignments DE4(9-12)
- Self reflection assignments will be integrated to ensure that students can personalize the material P3(9-12)
- Students will use simulations and other instructional methods that are skill based and can adjust the content to what learning style fits best for them AA1(9-12)
- Group projects and assessments will provide opportunities for students to explore how the content can be used in the future. AA4(9-12)

Teacher Resources: NGPF Semester Course

Unit 3 - Paying for College	
Desired Results - Goals, Transfer, Meaning, Acquisition	
Established Goals: Earning Income 3a: Evaluate the costs and benefits of investing in additional education or training 3c: Compare earnings and unemployment rates by level of education and training Managing Credit 4a: Describe the different sources of funding for postsecondary education 4b: Explain the role the FAFSA plays in applying for college financial aid 4c: Identify scholarships and grants for which they are eligible 5a: Compare federal and private student loans based on interest rates, repayment rules, and other characteristics 5c: Estimate total interest on various student loans based on interest rates and repayment plan 5d: Predict the potential consequences of deferred payment of student loans Spending 2a: Select a product or service and describe the various factors that may influence a consumer's purchase decision 2b: Describe a process for making an informed consumer decision	
Vision of A Learner Attributes: Students will be able to independently use their learning to... ("I can" statements to be demonstrated) TCC4(9-12): I can integrate my learning to adapt to experiences in the classroom, career and life. CCE3(9-12): I can show initiative in prompting group discourse and fostering collaboration among others, providing actionable feedback, and working with others to solve problems and/or design products. DE4(9-12): I can work respectfully with all members of my community and support the needs of others. P3(9-12): I can accept constructive feedback and use setbacks to adjust my learning journey in order to reach my goals. AA1(9-12): I can evaluate different approaches and justify the best pathway to success.	
Understandings: Students will understand that... ● The decision to attend college involves opportunity costs ● The total cost of attending college includes both direct costs and indirect costs. ● A college's sticker price often differs significantly from the net price. ● The FAFSA (Free Application for Federal Student Aid) is a critical step in accessing financial aid ● Scholarships and grants should be prioritized over loans ● Borrowing responsibly for college is important and a variety of	**Essential Questions:** ● What are the opportunity costs of going to college? ● What are the direct and indirect costs of attending college? ● How do the sticker price and net price of a college differ? ● What role does the FAFSA play in the financial aid process? ● Why should scholarships and grants be prioritized over loans? ● What does it mean to be a responsible borrower?

factors and decisions need to be addressed	
Students will know... ● The opportunity costs of attending college, including how delayed earnings and work experience compare to entering the workforce immediately. ● The most common costs of attending college, including tuition, fees, room and board, books, transportation, and personal expenses. ● The difference between a college's sticker price and net price, and how to calculate and compare net prices across different institutions. ● The purpose of the FAFSA, how to complete it, and the significance of their Student Aid Index (SAI) in determining financial aid eligibility. ● How to distinguish between scholarships, grants, and loans, and why scholarships and grants should be prioritized as financial aid options. ● How to analyze financial aid offers, evaluate the types of aid included, and determine the best strategies for borrowing and repayment.	**Students will be able to...** ● Analyze the opportunity cost of going to college when compared to entering the workforce ● Identify the most common costs associated with attending college ● Explain the difference between a college's sticker price and net price ● Compare the net price of different colleges ● Explain the role the FAFSA plays in the financial aid process ● Understand the importance of submitting the FAFSA ● Read a FAFSA Submission Summary and understand the role of their Student Aid Index (SAI) in paying for college ● Explain why scholarships and grants should be prioritized when looking for and accepting financial aid ● Explain the difference between scholarships and grants ● Find scholarships and grants that they are eligible for ● Explain what it means to be a responsible borrower ● Analyze different types of federal student loans ● Compare federal and private student loans ● Analyze hypothetical and personal scenarios involving college and career decisions that impact their ability to pay for college ● Discuss the direct and indirect costs of attending college ● Explain the important elements of a financial aid offer ● Analyze different sample financial aid offers ● Demonstrate the order in which different types of financial aid should be accepted ● Discuss common mistakes made in repaying student loans ● Explain the difference between different types of repayment plans ● Identify sources of assistance if they need help with student loan repayment ● Analyze different scenarios and choose the best repayment option
Key Vocabulary: Sticker price, net price, FAFSA (Free Application for Federal Student Aid), Student Aid Index (SAI), financial aid package, scholarships, grants, work-study, federal student loans, private student loans, tuition, fees, room and board, indirect costs, repayment plan,	

interest rate, subsidized loans, unsubsidized loans, cost of attendance (COA), financial aid offer, merit-based aid, need-based aid, opportunity cost, default, loan forgiveness, consolidation, deferment, forbearance, expected family contribution (EFC), Pell Grant, direct PLUS loan.

Assessment Evidence

Performance Tasks:	Other Evidence:
Student Activity Packets: Paying for College 101 Applying for the FAFSA Scholarships and Grants Student Loans Financial Aid Packages Student Loan Repayment Time for Payback	Interim: ANALYZE: A FAFSA Submission Summary ANALYZE: College and Career Choices COMPARE: Which Repayment Option is Best? FINE PRINT: Financial Aid Package INTERACTIVE: Payback INTERACTIVE: Sticker Price vs. Net Price RESEARCH: Finding Scholarships and Grants Summative: Paying for College Unit Test

Learning Plan

NGPF Semester Long Curriculum Documents

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- Students will use simulations and other instructional methods that are skill based and can adjust the content to what learning style fits best for them AA1(9-12)
- Group projects and assessments will provide opportunities for students to explore how the content can be used in the future. AA4(9-12)

Teacher Resources: NGPF Semester Course

Unit 4 - Investing
Desired Results - Goals, Transfer, Meaning, Acquisition
Established Goals: Investing 1a: Identify their short-term and long-term financial goals 1b: Discuss how a person's risk tolerance influences their investment decisions 2a: Describe the different types of annual cash flows that can be received by investors 2b: Compare nominal annual rates of return over time on different types of investments, including cash flows and price changes 3a: Discuss the advantages and disadvantages of investing in riskier assets 3b: Investigate the long-run average rates of returns on small-company stocks, large-company stocks, corporate bonds, and Treasury bonds 4a: Describe the impact of inflation on prices over time 5a: Describe factors that influence the prices of financial assets 5b: Predict what could happen to the price of a stock if new information is reported about the company or its products 5c: Discuss how economic downturns that result in high unemployment can affect the prices of financial assets 6a: Recommend portfolio allocation between major asset classes for a short-term goal versus a long-term goal 6b: Discuss the pros and cons of investing in a diversified mutual fund versus investing in a small number of individual stocks 6c: Suggest an appropriate asset allocation for a very risk averse person versus a very risk tolerant person 6d: Explain how target date retirement funds reallocate investments over time to meet their investment objective 7a: Discuss how the expenses associated with buying and selling investments can impact rates of return and investment outcomes 7b: Compare the expense ratios for several mutual funds 7c: Explain why an actively managed mutual fund usually has a higher expense ratio than an index fund 8b: Describe the advantages of investing through a tax deferred account such as an IRA or 401(k) versus a taxable account 8c: Investigate the contribution limits and tax advantages of a traditional IRA versus a Roth IRA 10b: Describe the importance of having multiple sources of income in retirement, such as Social Security, employer sponsored retirement plans, and personal investments 10d: Report the average benefit paid to a retiree living on Social Security today Spending 13a: Explain why investors often compare portfolio performance to a benchmark such as the S&P 500 Index 13b: Research the composition of the most popular benchmark indices and compare their recent performance 13c: Discuss the advantages of investing in an exchange traded fund (ETF) that tracks a market index rather than investing in actively managed mutual funds or individual stocks and bonds Earning Income

1d: Examine the benefits of participating in employer sponsored retirement savings plans and healthcare savings plans 10c: Explain the importance of participating in employer sponsored retirement plans, when available, and contributing enough to qualify for the maximum employer match
Vision of A Learner Attributes: Students will be able to independently use their learning to... ("I can" statements to be demonstrated) TCC4(9-12): I can integrate my learning to adapt to experiences in the classroom, career and life. CCE3(9-12): I can show initiative in prompting group discourse and fostering collaboration among others, providing actionable feedback, and working with others to solve problems and/or design products. DE4(9-12): I can work respectfully with all members of my community and support the needs of others. P3(9-12): I can accept constructive feedback and use setbacks to adjust my learning journey in order to reach my goals. AA1(9-12): I can evaluate different approaches and justify the best pathway to success. AA4(9-12): I can create opportunities to extend my learning by remaining open-minded in any situation.

Understandings: Students will understand that… ● The differences between saving and investing ● Compounding builds wealth over time ● Why it can be difficult to predict trends in the stock market ● There are various factors that can influence bond prices such as interest rates ● What a stock split is and how it impacts investors who own that stock ● What risk is and its role in investing ● What a fund is and how investing in one can create a more diversified investment portfolio ● What a brokerage account is and how to open one ● What Social Security is and why most Americans cannot rely on Social Security alone for retirement ● What a 401(k) plan is and its advantages	**Essential Questions:** ● How do concepts such as risk, return, diversification, and liquidity influence our investment decisions? ● What are the main types of investment vehicles available to individuals? ● What factors should we consider when choosing investments that align with our financial goals and risk tolerance? ● What role does "time horizon" play in determining asset allocation and investment selection? ● What are the potential benefits and drawbacks of actively managed versus passively managed investment strategies? ● How can we develop and implement an investment plan to achieve long-term financial success?
Students will know... ● What the stock market is and why companies and investors choose to participate in the stock market ● What stocks are and how they can make money from investing in them ● What a bond is and the pros and cons of investing in bonds ● The difference between active investing and passive investing ● How investing can be a powerful tool to meet their retirement	**Students will be able to...** ● Define investing and distinguish it from saving and trading ● Identify reasons for investing, including outpacing inflation ● Experience making a variety of investment decisions through an interactive simulation ● Summarize long-term trends in the stock market ● Identify ways to minimize risk when investing in stocks ● Read a stock quote and evaluate a stock's performance over

goals ● The options available to them if an employer does not offer a 401(k) plan ● How to compare different types of retirement accounts, including Roth IRAs, traditional IRAs, 401(k)s, and pensions ● How artificial intelligence (AI) is changing the investing landscape	time ● Identify the differences between an individual bond and a bond fund ● Read a bond fund fact sheet ● Analyze effective strategies to manage investment risk such as investing early, diversification, and dollar cost averaging ● Calculate the impact of using dollar cost averaging in hypothetical scenarios and by using the real historical performance of an index fund ● Arrange companies to create a diversified mutual fund ● Identify strategies recommended for a beginner investor and explain why these strategies may be beneficial ● Explore their own risk tolerance through a worksheet ● Experience making a variety of investment decisions through an interactive simulation ● Explain what retirement means through a financial lens ● Explore factors that can impact how much they might need in retirement and their ability to meet their retirement savings goal ● Discuss the function and growth of robo-advising, along with its relationship with human investment managers ● Explain the function, pros, and cons of micro-investing ● Compare modern investing tools
Key Vocabulary: Stocks, Bonds, Mutual funds, Exchange-Traded Funds (ETFs), Asset allocation, Diversification, Risk tolerance Portfolio, Capital gains, Dividends, Index funds, Volatility, Market volatility, Bull market, Bear market, Investment horizon, Compound interest Brokerage account, Stock market, Investment risk	
Assessment Evidence	
Performance Tasks: Student Activity Packets: Why Should I Invest? What is the Stock Market? What is a Stock? What is a Bond? Managing Risk Investing in Funds Start Investing	**Other Evidence:** Interim: INTERACTIVE: Invest with STAX! INTERACTIVE: What's the S&P 500? PROJECT: Joining the Market Summative: Investing Unit Test

The Importance of Investing for Retirement How to Invest for Retirement	
Learning Plan	
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Teacher Resources: NGPF Semester Course	

Unit 5 - Credit

Desired Results - Goals, Transfer, Meaning, Acquisition

Established Goals:
Managing Credit
1a: Explain how credit card grace periods, methods of interest calculation and fees affect borrowing costs
1b: Compare the cost of borrowing $1,000 using consumer credit options that differ in rates and fees
2a: Give examples of unsecured and secured loans
2c: Compare what happens if a borrower fails to make required payments on a secured loan, such as an auto loan or a home mortgage, versus failing to pay a credit card account
3b: Differentiate between adjustable-rate and fixed-rate mortgages
3c: Compare monthly mortgage payments for loans that differ in repayment period, amount borrowed, and interest rate
6a: Identify examples of loans that may require down payment
6c: For a specified loan amount, compare the monthly loan payment with a 10% down payment versus a 20% down payment
8b: Explain how a borrower's credit score can impact their cost of credit and their ability to get credit
10a: Describe how failing to repay a loan can negatively impact a person's finances and life
10c: Create a plan for a person who is having difficulty repaying debt
13a: Identify products and practices that are classified as alternative financial services
13b: Discuss the costs and benefits of using alternative financial services relative to traditional banking
13c: Explain how using payday loans can cause a cycle of debt

Vision of A Learner Attributes: Students will be able to independently use their learning to... ("I can" statements to be demonstrated)

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Understandings: Students will understand that...
- There are three basic components of lines of credit: principal, interest rate, and term
- How interest is charged and how to avoid or minimize it

Essential Questions:
- What are the different types of credit available to consumers?
- How does our creditworthiness impact our ability to access credit and borrow money?

● There are differences between debit, prepaid debit, and credit cards ● There are many different types of loans. ● Credit reports and scores can have a measurable effect on livelihood ● There are different strategies to start building credit	● What steps can we take to establish, build, and maintain credit history? ● What are the common pitfalls and risks associated with using credit? ● What factors contribute to the calculation of interest rates on credit products? ● How can we effectively manage our credit obligations to reduce debt and improve our financial well-being over time?
Students will know… ● What net worth means and how it is calculated ● Why a person may need or want to use credit ● How a credit card works in terms of making purchases and managing payments ● Why a person may need or want to use credit ● How a credit card works in terms of making purchases and managing payments ● What a payday loan is and how it can cause users to fall into a cycle of debt ● How interest-bearing credit accounts impact a person's ability to manage debt ● Often credit reports are used ● How to address errors on a credit report ● What a credit score is and how one is calculated ● How long it takes to establish a credit score	**Students will be able to...** ● Identify the major types of credit and their characteristics ● Identify at least 3 ways a young adult can gain access to a credit card, even before they are 21 ● Read a Schumer Box ● Interpret data to understand what types of debt the average American household has ● Differentiate between amortized installment loans and revolving credit lines ● Read an amortization table and understand how the payments are structured ● Calculate how much an auto loan will cost given special offers as well as standard factors such as down payment, APR, and term ● Compare auto loan offers and decide how they fit within your budget ● Explain what a mortgage is and why most Americans require one to finance a home ● Use a mortgage calculator to explore how downpayment, credit score, interest rate, and term all impact the total cost of buying a home ● Distinguish between fixed- and adjustable-rate mortgages ● Identify what financial need payday lenders are meeting and why consumers use payday loans ● Compare the price of borrowing money using various loan and credit products ● Critique the actions of someone who found themselves in problematic debt ● Assess multiple strategies to reduce or eliminate debt

	• Compare when late payments become troublesome and the potential consequences for late payments of different types of debt • Summarize the content and purpose of a credit report • Analyze a credit report • Compare the percentage of people in different credit score bands • Analyze the different methods available to view their credit score • Critique different credit score scenarios and formulate a plan on how to improve credit scores • Analyze reasons why it's important to establish credit early in life • Compare the impact of different credit scores when taking out different types of loans
Key Vocabulary: Credit score, Credit report, Credit history, Creditworthiness, Credit utilization ratio, FICO score, Credit card Annual percentage rate (APR), Minimum payment, Credit limit, Secured credit card, Unsecured credit card, Revolving credit Installment loan, Interest rate, Late payment fee, Credit counseling, Credit bureau, Default, Debt consolidation	
Assessment Evidence	
Performance Tasks: Student Activity Packets: Intro to Credit Young People & Credit Cards Using Credit Cards Wisely Loan Fundamentals Auto Loans Mortgages Predatory Lending Debt Management Your Credit Report Your Credit Score Building Credit from Scratch	**Other Evidence:** Interim: CASE STUDY: Gimme Some Credit CASE STUDY: Payday Loan, Bankruptcy...What Should I Do? CASE STUDY: A Tale of Two Credit Scores Summative: Credit Unit Test
Learning Plan	
[NGPF Semester Long Curriculum Documents]	

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Teacher Resources: **NGPF Semester Course**

<table>
<tr><th colspan="2">Unit 6 - Taxes</th></tr>
<tr><th colspan="2">Desired Results - Goals, Transfer, Meaning, Acquisition</th></tr>
<tr><td colspan="2">Established Goals:
Earning Income
6a: Calculate the amount of taxes a person is likely to pay when given information or data about the person’s sources of income and amount of spending
6b: Identify which level(s) of government typically receive(s) the tax revenue for income taxes, payroll taxes, property taxes, and sales taxes
6c: Describe the benefits they receive, or may receive in the future, from government-collected tax revenue
7c: Differentiate between gross, net, and taxable income
7d: Explain why some income is reported on an IRS Form W-2 and some is reported on an IRS Form 1099, and how that could affect their taxes
8a: Explain the difference between earned and unearned income
9a: Complete IRS Form W-4
11a: Evaluate the benefits and costs of gig employment, such as driving for a cab or delivery service</td></tr>
<tr><td colspan="2">Vision of A Learner Attributes: Students will be able to independently use their learning to... (“I can” statements to be demonstrated)
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<tr><td>Understandings: Students will understand that...
Gross pay and net pay are different
The tax cycle has key dates and forms that individuals must be aware of.
A W-4 form determines the amount of tax withheld
The U.S. government’s spending is funded by your payments to the IRS
Taxes can be prepared using various methods.
The 1040 form is the primary tool for filing federal taxes.</td><td>Essential Questions:
What information does a pay stub provide?
How can understanding deductions help in managing personal finances?
What is the difference between gross pay and net pay?
What are the differences between mandatory and discretionary government spending?
What are the key dates and forms necessary to file your taxes?
What is the purpose of a W-4 form?</td></tr>
<tr><td>Students will know...
How to read and interpret a pay stub, including identifying gross</td><td>Students will be able to...
Read and understand a pay stub</td></tr>
</table>

pay, net pay, and common deductions. • How government spending affects their day to day lives. • The difference between gross pay and net pay and how to calculate take-home pay. • The purpose of key tax forms, including the W-2, W-4, and 1040. • The important dates in the tax cycle, including deadlines for filing taxes and receiving forms.	• Compare mandatory and discretionary government spending • Explain the difference between gross and net pay • Analyze the different categories of discretionary government spending • Identify important dates within the tax cycle • Compare tax forms and their purpose • Analyze a W-4 form • Identify key facts about taxes and the tax cycle • Explain who qualifies to be claimed as a dependent for tax purposes • Determine whether or not a person is required to file taxes • Identify the different forms needed to prepare their taxes • Compare different methods of preparing federal and state taxes • Analyze a W-2 form • Complete a 1040 form to file their taxes
Key Vocabulary: Gross pay, net pay, deductions, withholding, pay stub, mandatory spending, discretionary spending, tax cycle, W-4 form, W-2 form, 1040 form, dependent, tax credit, tax deduction, filing status, federal income tax, state income tax, Social Security tax, Medicare tax, flat tax, progressive tax, taxable income, adjusted gross income (AGI), standard deduction, itemized deduction.	
Assessment Evidence	
Performance Tasks: Student Activity Packets: Taxes and Your Pay Stub The Tax Cycle and Job Paperwork Teens and Taxes How to File Your Taxes Completing the 1040	**Other Evidence:** Interim: CALCULATE: Completing a 1040 CALCULATE: The Math Behind Your Federal Taxes CALCULATE: What Affects How Much We Pay in Income Taxes? COMPARE: Tax Forms and their Purpose FINE PRINT: W-2 Form FINE PRINT: W-4 Form MOVE: Paycheck Scavenger Hunt MOVE: Your Tax Dollar in Action Summative: Budgeting Unit Test
Learning Plan	
NGPF Semester Long Curriculum Documents • Students will explore how their values shape their money decisions in questionnaires and virtual learning labs TCC4(9-12)	

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Teacher Resources: NGPF Semester Course

Unit 7 - Insurance
Desired Results - Goals, Transfer, Meaning, Acquisition
Established Goals: Managing Risk 1a: Discuss whether a premium paid to insure against a crash that never happens is wasted 1b: Analyze the conditions under which it is appropriate for young adults to have life, health, and disability insurance 2b: Recommend types of insurance needed by people with different characteristics 3b: Discuss why most states mandate auto liability coverage 3c: Research the minimum auto liability insurance required in the state they live in and whether it is sufficient to cover typical auto accident financial losses 4a: Research factors that result in lower auto insurance premiums 4b: Explain why taking a safe driving course can lower a driver's auto insurance premium 4c: Discuss the pros and cons of buying an auto insurance policy with a higher deductible 5a: Discuss the advantages of obtaining health insurance coverage through an employer plan versus buying private insurance or being uninsured 5b: Analyze the conditions under which it is appropriate for young adults to have life, health, and disability insurance 5c: Estimate the effect on different health insurance deductibles and coinsurance rates on out-of-pocket medical costs 7a: Explain the primary types of losses covered by auto, homeowner's, and renter's insurance policies 7b: Describe situations where someone may be liable for injuries or damages to another person or their property 8a: Explain how a person's death can result in financial losses to others 8b: Discuss the benefits and costs of purchasing life insurance on the primary earners in a household 9b: Compare the Medicare and Medicaid programs based on who they cover and how they are funded 12a: Evaluate the costs and benefits of buying an extended warranty on a specific item (e.g. cellphone, laptop, or vehicle) considering the likelihood of product failure, cost of replacing the item, and price of the warranty 12b: Explain how extended warranties or service contracts are similar to and different from insurance Saving 5a: Investigate the areas of financial institution operations that are subject to state and/or federal regulation and supervision 7d: Explain the benefits of saving money in a health savings account for individuals with high-deductible health plans Earning Income 1d: Examine the benefits of participating in employer sponsored retirement savings plans and healthcare savings plans

Vision of A Learner Attributes: Students will be able to independently use their learning to... ("I can" statements to be demonstrated) TCC4(9-12): I can integrate my learning to adapt to experiences in the classroom, career and life. CCE3(9-12): I can show initiative in prompting group discourse and fostering collaboration among others, providing actionable feedback, and working with others to solve problems and/or design products. DE4(9-12): I can work respectfully with all members of my community and support the needs of others. P3(9-12): I can accept constructive feedback and use setbacks to adjust my learning journey in order to reach my goals. AA1(9-12): I can evaluate different approaches and justify the best pathway to success. AA4(9-12): I can create opportunities to extend my learning by remaining open-minded in any situation.	
Understandings: Students will understand that... ● Insurance is a financial tool designed to protect individuals and families from the financial consequences of unexpected events. ● Insurance policies can be complex and it is important to understand what is stated in the policy. ● Insurance premiums can differ significantly between individuals and there are a variety of factors used by insurance companies to determine premiums. ● Insurance policies have various features, including deductibles, coverage limits, and exclusions, which can impact the cost and scope of coverage. ● Insurance plays a crucial role in financial planning.	**Essential Questions:** ● What are the primary types of insurance coverage available to individuals? ● How do insurance premiums, deductibles, and coverage limits vary across different insurance policies? ● What factors should we consider when selecting insurance coverage? ● What is the role of risk assessment in determining insurance premiums? ● How does the claims process work when filing an insurance claim? ● How can we assess our insurance needs and develop a comprehensive insurance strategy?
Students will know... ● How everyone risks financial loss and how insurance shares that risk ● How the insurance industry uses risk pooling and math to provide insurance coverage and make a profit ● Why it is valuable to have insurance, regardless of whether you own or rent a home ● How health insurance works and the different types of plans available to them ● The pros and cons of enrolling in employer-sponsored health plans vs individual plans from the Marketplace	**Students will be able to...** ● Identify factors that impact insurance premiums and the relationship between premiums, deductibles, and coverage limits ● Explain a deductible, out-of-pocket expenses, and what insurance will pay for in different situations ● List factors that determine auto insurance premiums ● Distinguish the similarities and differences between renters and homeowners insurance ● Identify the various costs affiliated with having health insurance ● Explore steps they can take to lower their medical costs ● Understand how government healthcare programs like Medicaid, CHIP, and Medicare work and who qualifies for them ● Investigate health insurance policies and eligibility in their states ● Explain how pet insurance works and how it compares to human

	health insurance ● Differentiate between short- and long-term disability insurance ● Decide when a life insurance policy is appropriate and how to select the best type for their needs
Key Vocabulary: Insurance policy, Premium, Deductible, Coverage limit, Policyholder, Insurer, Beneficiary, Claim, Underwriting, Risk assessment Actuary, Exclusion, Copayment, Coinsurance, Policy term, Renewal, Policyholder's equity, Umbrella insurance, Term life insurance, Whole life insurance	
Assessment Evidence	
Performance Tasks: Student Activity Packets: Intro to Insurance Auto Insurance Renters & Homeowners Insurance How Health Insurance Works How to Access Health Insurance Other Types of Insurance	**Other Evidence:** Interim: CASE STUDY: Fender Bender Frenzy! CASE STUDY: Like a Good Neighbor, Noelle Is There Summative: Insurance Unit Test
Learning Plan	
NGPF Semester Long Curriculum Documents ● Students will explore how their values shape their money decisions in questionnaires and virtual learning labs TCC4(9-12) ● Discussion boards and questionnaires will be used to answer questions and view the thoughts and opinions of classmates and the instructor. CCE1(9-12) ● Students will work with others on group projects and assignments DE4(9-12) ● Self reflection assignments will be integrated to ensure that students can personalize the material P3(9-12) ● Students will use simulations and other instructional methods that are skill based and can adjust the content to what learning style fits best for them AA1(9-12) ● Group projects and assessments will provide opportunities for students to explore how the content can be used in the future. AA4(9-12)	
Teacher Resources: **NGPF Semester Course**	

Unit 8 - Budgeting	
Desired Results - Goals, Transfer, Meaning, Acquisition	
Established Goals: Investing 4a: Describe the impact of inflation on prices over time Earning Income 7c: Differentiate between gross, net and taxable income Managing Credit 6a: Identify examples of loans that may require down payments 6b: Given the price of a home, estimate the amount of down payment required Spending 1a: Identify their short-term and long-term financial goal 1b: Develop a budget to allocate current income to necessary and desired spending, including estimates for both fixed and variable expenses 1c: Explain methods for adjusting a budget for unexpected expenses or emergencies 1d: Evaluate the advantages of using budgeting tools, such as spreadsheets or apps 2b: Describe a process for making an informed consumer decision 4a: List different ways retailers advertise the prices of their products 4b: Describe how inflation affects purchase decisions and the price of goods and services 6a: Identify financial and personal reasons that younger adults often choose to rent a home instead of buying 6b: Compare the short-term and long-term costs and benefits of renting versus buying a home in their city of residence	
Vision of A Learner Attributes: Students will be able to independently use their learning to... ("I can" statements to be demonstrated) TCC4(9-12): I can integrate my learning to adapt to experiences in the classroom, career and life. CCE3(9-12): I can show initiative in prompting group discourse and fostering collaboration among others, providing actionable feedback, and working with others to solve problems and/or design products. DE4(9-12): I can work respectfully with all members of my community and support the needs of others. P3(9-12): I can accept constructive feedback and use setbacks to adjust my learning journey in order to reach my goals. AA1(9-12): I can evaluate different approaches and justify the best pathway to success. AA4(9-12): I can create opportunities to extend my learning by remaining open-minded in any situation.	
Understandings: Students will understand that... ● Budgeting helps them track their income and expenses, prioritize spending, and achieve their financial goals. ● Budgeting teaches them to allocate their resources wisely by	**Essential Questions:** ● What is the importance of creating and following a budget? ● What are the key components of a budget? ● How can we track and categorize our financial transactions to

<table>
<tr><td>prioritizing needs over wants.
A budget is a dynamic tool that requires regular adjustments and discipline to maintain.
Saving regularly is essential for financial security and future planning.
Budgeting teaches how to manage debt responsibly by avoiding excessive borrowing and paying off existing debt systematically.</td><td>create an accurate and realistic budget?
How can we differentiate between fixed expenses and variable expenses in our budget?
What strategies can we use to stick to a budget and show financial restraint?
What are the potential benefits of using budgeting tools and apps to manage our finances?
How can technology assist us in the budgeting process?
How can we develop effective budgeting strategies for achieving short-term goals (e.g., saving for a vacation) and long-term goals (e.g., buying a home, retirement planning)?</td></tr>
<tr><td>Students will know...
The difference between gross pay and net pay
How to research and choose appropriate budgeting apps to meet specific needs
How to create a budget on a salaried adult’s income and adjust it as required
How inflation affects one’s ability to budget for food
How to compare the popularity of various transportation methods in the United States</td><td>Students will be able to...
Describe the purpose of a budget
Classify expenses as needs and wants
List the different categories of expenses
Explain how four different budgeting strategies work
Weigh the pros and cons of each budgeting strategy
Prioritize many factors when deciding where to live
Identify ways to reduce their transportation costs
Understand the financial implications and overall tradeoffs of using different transportation options
Estimate the costs of buying food
Detail strategies for lowering a dining out budget</td></tr>
<tr><td colspan="2">Key Vocabulary: Income, Expenses, Budget, Fixed expenses, Variable expenses, Discretionary spending, Savings, Emergency fund, Debt repayment, Net income, Gross income, Budget surplus, Budget deficit, Financial goals, Envelope system, Zero-based budgeting, Budget tracker, Budget categories, Financial planner, Financial literacy</td></tr>
<tr><th colspan="2">Assessment Evidence</th></tr>
<tr><td>Performance Tasks:
Student Activity Packets:
Budgeting Basics
Budgeting Strategies
Budgeting for Housing
Budgeting for Transportation
Budgeting for Food
Build Your Budget</td><td>Other Evidence:
Interim:
CASE STUDY: How Do I Budget?
PROJECT: Budgeting with Roommates
Summative:
Budgeting Unit Test</td></tr>
</table>

Learning Plan
NGPF Semester Long Curriculum Documents ● Students will explore how their values shape their money decisions in questionnaires and virtual learning labs TCC4(9-12) ● Discussion boards and questionnaires will be used to answer questions and view the thoughts and opinions of classmates and the instructor. CCE1(9-12) ● Students will work with others on group projects and assignments DE4(9-12) ● Self reflection assignments will be integrated to ensure that students can personalize the material P3(9-12) ● Students will use simulations and other instructional methods that are skill based and can adjust the content to what learning style fits best for them AA1(9-12) ● Group projects and assessments will provide opportunities for students to explore how the content can be used in the future. AA4(9-12)
Teacher Resources: NGPF Semester Course

AP French Language and Culture CURRICULUM

AP® French Language and Culture	
Grade Level(s): 11-12	**Curriculum Author(s): Kate Peterson**

Course Description: The three modes of communication—Interpretive, Interpersonal, and Presentational—defined in the World Readiness Standards for Learning Languages, are foundational to the AP French Language and Culture course. The AP course provides students with opportunities to demonstrate their proficiency in each of the three modes in the Intermediate to Advanced range, as described in the ACTFL Performance Descriptors for Language Learners. As such, the course has been designed to provide high school students with a rich and rigorous opportunity to study the language and cultures of the French Speaking world.

Year At A Glance			
Unit Title	**Overarching Essential Question**	**Overarching Enduring Understanding**	**Vision of A Learner "I Can" Statements**
Families in Different Societies	What constitutes a family in French speaking societies?	There exist societal, economical, and cultural factors which determine the concept and role of the family.	TCC2(9-12), CCE4(9-12), DE1(9-12), AA2(9-12)
The Influence of Language and Culture on Identity	How does language and culture influence identity in French-speaking societies?	Science, technology, social media, art and advertising all have a profound effect on shaping personal and public identity.	TCC4(9-12), CCE1(9-12), CCE4(9-12), DE1 (9-12), TI3(9-12), P3(9-12)
Influences of Beauty and Art	How does art and the concept of beauty influence and shape values in society and culture?	Art and aesthetics play an essential role in shaping culture and societal values and are a reflection of each generation.	TCC3(9-12),CCE3(9-12) TI2(9-12), P3(9-12)
How Science and Technology Affect Our Lives	What are the cultural influences that drive scientific and technological advances, and what are the ethical concerns associated with those advances?	There are numerous effects on people's lives in French speaking countries due to innovations in science and technology. How will advances in these fields affect the future of the francophone world?	TCC2(9-12), TCC3(9-12), CCE4(9-12), TI2(9-12), P4(9-12)
Factors That Impact the Quality of Life	What factors determine how we define 'quality of life'?	There are a number of factors which determine the quality of life, both internal and external.	TCC1(9-12), CCE4(9-12), DE1(9-12), P2(9-12), AA2(9-12)
Environmental, Political, and Societal Challenges	How do societal issues affect an individual and society?	Each francophone community around the world has its own set of environmental, social and economic factors which have unique effects on its society.	TCC1(9-12), CCE4(9-12), DE1(9-12), P2(9-12), AA2(9-12)

Unit 1 - Families in Different Societies
Desired Results - Goals, Transfer, Meaning, Acquisition
Established Goals: *Standards based on the French Language and Culture Exam Course Description. For more information visit: www.collegeboard.org **1.A: Describe the literal meaning of the text.** 1.A.1: Identify the main idea. 1.A.2: Identify supporting/relevant details. 1.A.3: Retell or summarize information in narrative form. **3.A: Interpret the distinguishing features of a text.** 3.A.1: Identify the intended audience. 3.A.2: Identify the purpose. 3.A.3: Identify and/or describe the point(s) of view, perspective(s), tone, or attitude. **3.B: Interpret the meaning of a text.** 3.B.2: Infer implied meanings through context. **4.A: Determine the meaning of familiar and unfamiliar words.** 4.A.1: Determine the meaning of a variety of vocabulary. 4.A.2: Deduce the meaning of unfamiliar words or expressions. **4.B: Use words appropriate for a given context.** 4.B.1: Use a variety of vocabulary in written and spoken communication. 4.B.2: Explain and use idiomatic and culturally authentic expressions. **5.A: Understand and apply appropriate communication strategies in interpersonal speaking.** 5.A.1: Initiate, maintain, and close spoken exchanges. 5.A.2: Comprehend an interlocutor's message in spoken exchanges. 5.A.3: Provide and obtain relevant information in spoken exchanges. 5.A.4: Use appropriate register and greeting for the intended target culture audience in spoken exchanges. 5.A.5: Use pronunciation that is comprehensible when interacting with speakers of the target language in spoken exchanges. 5.A.6: Use effective intonation patterns, pacing, and delivery when interacting with speakers of the target language in spoken exchanges. 5.A.7: Use communication strategies such as circumlocution, requesting clarification, asking for repetition, and paraphrasing to maintain

spoken exchanges.

5.B: Understand and apply appropriate and varied syntactical expressions in interpersonal speaking.
5.B.1: Use a variety of grammar and syntax in spoken exchanges.
5.B.2: Use transitional expressions and cohesive devices in spoken exchanges.
5.B.3: Comprehend and produce simple, compound, and complex sentences in a variety of time frames in spoken exchanges.
5.B.4: Monitor language production; recognize errors and attempt self-correction in spoken exchanges.

6.A: Understand and apply appropriate communication strategies in interpersonal writing.
6.A.1: Initiate, maintain, and close written exchanges.
6.A.2: Provide and obtain relevant information in written exchanges.
6.A.3: Use a variety of grammar and syntax in written exchanges.
6.A.4: Use register appropriate for the intended target culture audience in written exchanges.
6.A.5: Use communication strategies such as circumlocution, requesting clarification, and paraphrasing to maintain written exchanges.

6.B: Understand and apply appropriate and varied syntactical expressions in interpersonal writing.
6.B.1: Use transitional expressions and cohesive devices to create paragraph-length discourse in written exchanges.
6.B.2: Comprehend and produce simple, compound, and complex sentences in a variety of time frames in written exchanges.
6.B.3: Use standard conventions of the written language (e.g., capitalization, orthography, accents, punctuation) in written exchanges.
6.B.4: Monitor language production; recognize errors and attempt self-correction in written exchanges.

7.A: Plan and research an issue or topic for presentational speaking.
7.A.1: Use a process to plan spoken presentations.
7.A.2: Use research strategies to gather information and evidence for inclusion in spoken presentations.

7.B: Use appropriate vocal and visual strategies to communicate an idea in presentational speaking.
7.B.1: Produce spoken presentations in the appropriate register with an introduction, development of topic, and conclusion.
7.B.2: Use transitional expressions and cohesive devices to create paragraph-length discourse in spoken presentations.
7.B.3: Use pronunciation in spoken presentations that is comprehensible to speakers of the target language.
7.B.4: Use effective intonation patterns, pacing, and delivery in spoken presentations.
7.B.5: Use communication strategies such as circumlocution and paraphrasing to maintain spoken presentations.

7.C: Use appropriate language and vocabulary for the intended audience in presentational speaking.
7.C.1: Use a variety of grammar and syntax in spoken presentations.
7.C.2: Produce simple, compound, and complex sentences in a variety of time frames in spoken presentations.

7.C.3: Monitor language production; recognize errors and attempt self-correction in spoken presentations. **7.D: Express a perspective with details and examples to illustrate an opinion or idea in presentational speaking.** 7.D.1: Explain ideas and opinions with examples in spoken presentations. 7.D.2: Compare features (including products, practices, and perspectives) of target cultural communities to those of the student's own community in spoken presentations.	
Vision of A Learner Attributes: TCC2(9-12): I can evaluate evidence from multiple perspectives, and recognize their limitations and implications, in order to justify new conclusions. TCC4(9-12): I can integrate my learning to adapt to experiences in the classroom, career and life. CCE1(9-12): I can initiate discussions with my peers and teachers about a variety of topics, respecting differing viewpoints, actively listening to others, and responding thoughtfully with peer-reviewed evidence that is free of bias. CCE2(9-12): I can give and receive actionable and relevant feedback with openness to be able to determine meaningful revisions for success. CCE4(9-12): I can communicate and express my understanding in an authentic, respectful and relevant way, using the most effective mode of expression. DE1(9-12): I can acknowledge, process, and respond appropriately to others' comments and perspectives. TI4(9-12): I can apply my strengths and anticipate challenges to reach my current and future goals. P1(9-12): I can self-reflect and seek feedback to build upon my strengths, apply those strengths to overcome obstacles, and share my strategies with others. AA2(9-12): I can assess my past successes and mistakes to change my approach. AA4(9-12): I can create opportunities to extend my learning by remaining open-minded in any situation.	
Understandings: Students will understand that... ● Families shape values and traditions, as well as personal beliefs and personal interests. ● Families face challenges such as access to education and availability of employment. ● The concept and role of families in contemporary societies are constantly evolving.	**Essential Questions:** ● What constitutes a family in French Speaking societies? ● What are some important aspects of family values and family life in the francophone world? ● What challenges do francophone families face in today's world?
Students will know... ● Societal and economic factors can determine family structure and individual roles.	**Students will be able to…** ● Describe the literal meaning of the text. ● Describe data.

● How the concept of family has changed over time in French-speaking families.	● Interpret the distinguishing features of a text. ● Determine the meaning of familiar and unfamiliar words. ● Use words appropriate for a given context. ● Apply appropriate communication strategies in interpersonal speaking. ● Apply appropriate and varied syntactical expressions in interpersonal speaking. ● Apply appropriate communication strategies in interpersonal writing. ● Apply appropriate and varied syntactical expressions in interpersonal writing. ● Plan and research an issue or topic for presentational speaking ● Use appropriate vocal and visual strategies to communicate an idea in presentational speaking. ● Use appropriate language and vocabulary for the intended audience in presentational speaking. ● Express a perspective with details and examples to illustrate an opinion or idea in presentational speaking.
Key Vocabulary: la famille monoparentale/recopmposée, la femme au foyer, les liens familiaux, le conflit conjugal, les moeurs, veuf/veuve, la retraite, une échelle des valeurs, accorder l'autonomie à, les rapports, faire confiance à, se sentir à l'aise, soutenir, un colocataire, déménager, s'installer, louer, la facteur, les frais, un citoyen, le témoin, les noces	
Assessment Evidence	
Performance Tasks: ● Free Response Email reply ● Free Response Conversation (listening and oral response) ● Cultural Presentation (describe and explain the role of family in a specific francophone country)	**Other Evidence:** **Formative assessments:** ● Promotional Materials: "AP Central: Martinique" ● Letter: ""Une lettre à vos petit-enfants qui parle de traditions" ● Conversation and Chart: ""Grignoter en Randonnée" ● Email Reply: "Une Admission à l'Institut de Diambars" ● Conversation: "Le Bénévolat"
Learning Plan	
● **TCC2(9-12):** Cultural Presentation (describe and explain the role of family in a specific francophone country)	

- **CCE4(9-12):** Cultural Presentation (describe and explain the role of family in a specific francophone country), Free Response Conversation (listening and oral response)
- **DE1(9-12):** Conversation:

Teacher Resources:
- Thèmes: vistahigherlearning.com
- United Nations website: *https://www.un.org/es/*
- Teacher and student selected resources including articles, texts, TED Talks, documentaries, etc.
- Google Docs, Google Slides, Google Shared Drive, Google Classroom
- College Board released AP French Language and Culture student samples, scorings guidelines, and rubrics
- AP Classroom - AP French Workshop Handbook and Resources (CollegeBoard)

Unit 2 - The Influence of Language and Culture on Identity
Desired Results - Goals, Transfer, Meaning, Acquisition
Established Goals: *Standards based on the [French Language and Culture Exam Course Description]() For more information visit: [www.collegeboard.org.]() **1.A: Describe the literal meaning of the text.** 1.A.1: Identify the main idea. 1.A.2: Identify supporting/relevant details. 1.A.3: Retell or summarize information in narrative form. **1.B: Describe data.** 1.B.1: Identify and describe patterns and trends in data. **2.A: Make cultural connections.** 2.A.1: Identify and/or describe content and connections among cultural topics. 2.A.3: Explain how information from a text connects or relates to the target cultural topics or phenomena. **2.B: Make connections in and across disciplines.** 2.B.3: Explain how information from a text connects or relates to interdisciplinary topics or phenomena. **3.A: Interpret the distinguishing features of a text.** 3.A.1: Identify the intended audience. 3.A.2: Identify the purpose. 3.A.3: Identify and/or describe the point(s) of view, perspective(s), tone, or attitude. **4.A: Determine the meaning of familiar and unfamiliar words.** 4.A.2: Deduce meaning of unfamiliar words or expressions. **4.B: Use words appropriate for a given context.** 4.B.1: Use a variety of vocabulary in written and spoken communication. 4.B.2: Explain and use idiomatic and culturally authentic expressions. **7.A: Plan and research an issue or topic for presentational speaking.** 7.A.1: Use a process to plan spoken presentations.

7.A.2: Use research strategies to gather information and evidence for inclusion in spoken presentations.

7.B: Use appropriate vocal and visual strategies to communicate an idea in presentational speaking.
7.B.1: Produce spoken presentations in the appropriate register with an introduction, development of topic, and conclusion.
7.B.2: Use transitional expressions and cohesive devices to create paragraph-length discourse in spoken presentations.
7.B.3: Use pronunciation in spoken presentations that is comprehensible to speakers of the target language.
7.B.4: Use effective intonation patterns, pacing, and delivery in spoken presentations.
7.B.5: Use communication strategies such as circumlocution and paraphrasing to maintain spoken presentations.

7.C: Use appropriate language and vocabulary for the intended audience in presentational speaking.
7.C.1: Use a variety of grammar and syntax in spoken presentations.
7.C.2: Produce simple, compound, and complex sentences in a variety of time frames in spoken presentations.
7.C.3: Monitor language production; recognize errors and attempt self-correction in spoken presentations.

7.D: Express a perspective with details and examples to illustrate an opinion or idea in presentational speaking.
7.D.1: Explain ideas and opinions with examples in spoken presentations.
7.D.2: Compare features (including products, practices, and perspectives) of target cultural communities to those of the student's own community in spoken presentations.

8.A: Plan and research an issue or topic for presentational writing.
8.A.1: Use a process to plan written presentations.
8.A.2: Use research strategies to gather information and evidence for inclusion in written presentations.

8.B: Use appropriate writing strategies to communicate an idea for presentational writing.
8.B.1: Produce written presentations in the appropriate register with an introduction, development of topic, and a conclusion.
8.B.2: Use communication strategies such as circumlocution and paraphrasing to maintain written presentations.

8.C: Understand and apply appropriate and varied syntactical expressions in presentational writing.
8.C.1: Use transitional expressions and cohesive devices to create paragraph-length discourse in written presentations.
8.C.2: Use a variety of grammar and syntax in written presentations.
8.C.3: Produce simple, compound, and complex sentences in a variety of time frames in written presentations.
8.C.4: Use standard conventions of the written language (e.g., capitalization, orthography, accents, punctuation) in written presentations.
8.C.5: Monitor language production; recognize errors and attempt self-correction in written presentations.

8.D: Express a perspective with details and examples to illustrate an opinion or idea for written presentations.
8.D.1: Explain ideas and opinions with examples in written presentations.

8.D.2: Integrate information from sources and cite them appropriately in written presentations.	
Vision of A Learner Attributes: TCC4(9-12): I can integrate my learning to adapt to experiences in the classroom, career and life. CCE1(9-12): I can initiate discussions with my peers and teachers about a variety of topics, respecting differing viewpoints, actively listening to others, and responding thoughtfully with peer-reviewed evidence that is free of bias. CCE4(9-12): I can communicate and express my understanding in an authentic, respectful and relevant way, using the most effective mode of expression. DE1(9-12): I can acknowledge, process, and respond appropriately to others' comments and perspectives. TI3(9-12): I can formulate and investigate probing questions to further my learning. P3(9-12): I can accept constructive feedback and use setbacks to adjust my learning journey in order to reach my goals.	
Understandings: Students will understand... ● There are relationships between language and identity including the impacts and influences that technology, social media, art, and advertising all have on personal identity.	**Essential Questions:** ● How does one's identity evolve over time? ● How does language shape our cultural identity? ● How does technology influence the development of personal and public identity? ● How does the art of a community reflect its public identity?
Students will know... ● One's personal and public identity are consistently evolving. ● There are numerous social, economic, linguistic and cultural factors that shape who we are.	**Students will be able to…** ● Describe the literal meaning of the text. ● Describe data. ● Make cultural connections. ● Make connections in and across disciplines. ● Interpret the distinguishing features of a text. ● Determine the meaning of familiar and unfamiliar words. ● Use words appropriate for a given context. ● Plan and research an issue or topic for presentational speaking. ● Use appropriate vocal and visual strategies to communicate an idea in presentational speaking. ● Use appropriate language and vocabulary for the intended audience in presentational speaking. ● Express a perspective with details and examples to illustrate an opinion or idea in presentational speaking. ● Plan and research an issue or topic for presentational writing.

	● Use appropriate writing strategies to communicate an idea for presentational writing. ● Understand and apply appropriate and varied syntactical expressions in presentational writing. ● Express a perspective with details and examples to illustrate an opinion or idea for written presentations.
Key Vocabulary: la quête de soi, une croyance, un système de valeurs, la pluriculturalisme, un immigré, un pays d'acceuil, le pays natal, un défilé, les feux d'artifice, la loi, la burqua, l'argot, maghrébin(e), musulman(e), un imam, un griot, juif, l'athéisme, laïc, laïque, la laïcité, Dieu, la patrie, valoriser, le patrimoine, la frontière ouverte, un autochtone, le métissage, le tatouage	
Assessment Evidence	
Performance Tasks: ● Cultural Presentation (describe and explain how clothes/fashion defines identity in a specific francophone country and compare similar aspects in the United States) ● Argumentative Essay (Establish a position on whether Globalization has positive or negative effects on countries throughout the world). ● Unit 2 Progress check (MCQs)	**Other Evidence:** Formative assessments: ● Cultural Comparison Quiz (Oral recording) ● Article Report and Audio Quiz (MCQs based on text and audio) ● Literary Text Quiz (MCQs based on a short literary text)
Learning Plan	
● **TCC4(9-12):** *Summative:* Cultural Comparison Presentation ● **CCE4(9-12):** *Summative:* Argumentative Essay (Globalization) ● **TI3(9-12):** *Summative:* Cultural Comparison Presentation (Language and identity)	
Teacher Resources: ● TV5Unis - La Belle Vie ● VOCES Notre Histoire 4: Unité 1 "En quoi est-ce que tu crois?" ● Teacher and student selected resources including articles, texts, TED Talks, documentaries, etc. ● Google Docs, Google Slides, Google Shared Drive, Google Classroom ● College Board released AP French Language and Culture student samples, scorings guidelines, and rubrics ● AP Classroom	

Unit 3 - Influences of Beauty and Art
Desired Results - Goals, Transfer, Meaning, Acquisition
Established Goals: *Standards based on the French Language and Culture Exam Course Description. For more information visit: www.collegeboard.org. **1.A: Describe the literal meaning of the text.** 1.A.1: Identify the main idea. 1.A.2: Identify supporting / relevant details. 1.A.3: Retell or summarize information in narrative form. **2.B: Make connections in and across disciplines.** 2.B.1: Identify and/or describe content and connections among interdisciplinary topics. 2.B.2: Explain how data from a graph or table illustrate interdisciplinary topics or phenomena. 2.B.4: Infer interdisciplinary information from a text. **3.A: Interpret the distinguishing features of a text.** 3.A.2: Identify the purpose. 3.A.4: Identify organizing and/or rhetorical structures and/or strategies. **3.B: Interpret the meaning of a text.** 3.B.1: Identify and/or describe similarities and/or differences among different types of texts. 3.B.2: Infer implied meanings through context. **4.A: Determine the meaning of familiar and unfamiliar words.** 4.A.2: Deduce the meaning of unfamiliar words or expressions. **4.B: Use words appropriate for a given context.** 4.B.1: Use a variety of vocabulary in written and spoken communication. 4.B.2: Explain and use idiomatic and culturally authentic expressions. **5.A: Understand and apply appropriate communication strategies in interpersonal speaking.** 5.A.1: Initiate, maintain, and close spoken exchanges. 5.A.2: Comprehend an interlocutor's message in spoken exchanges.

5.A.3: Provide and obtain relevant information in spoken exchanges.
5.A.4: Use appropriate register and greeting for the intended target culture. audience in spoken exchanges.
5.A.5: Use pronunciation that is comprehensible when interacting with speakers of the target language in spoken exchanges.
5.A.6: Use effective intonation patterns, pacing, and delivery when interacting with speakers of the target language in spoken exchanges.
5.A.7: Use communication strategies such as circumlocution, requesting clarification, asking for repetition, and paraphrasing to maintain spoken exchanges.

5.B: Understand and apply appropriate and varied syntactical expressions in interpersonal speaking.
5.B.1: Use a variety of grammar and syntax in spoken exchanges.
5.B.2: Use transitional expressions and cohesive devices in spoken exchanges.
5.B.3: Comprehend and produce simple, compound, and complex sentences in a variety of time frames in spoken exchanges.
5.B.4: Monitor language production; recognize errors and attempt self-correction in spoken exchanges.

6.A: Understand and apply appropriate communication strategies in interpersonal writing.
6.A.1: Initiate, maintain, and close written exchanges.
6.A.2: Provide and obtain relevant information in written exchanges.
6.A.3: Use a variety of grammar and syntax in written exchanges.
6.A.4: Use a register appropriate for the intended target culture. audience in written exchanges.
6.A.5: Use communication strategies such as circumlocution, requesting clarification, and paraphrasing to maintain written exchanges.

6.B: Understand and apply appropriate and varied syntactical expressions in interpersonal writing.
6.B.1: Use transitional expressions and cohesive devices to create paragraph-length discourse in written exchanges.
6.B.2: Comprehend and produce simple, compound, and complex sentences in a variety of time frames in written exchanges.
6.B.3: Use standard conventions of the written language (e.g., capitalization, orthography, accents, punctuation) in written exchanges.
6.B.4: Monitor language production; recognize errors and attempt self-correction in written exchanges.

7.A: Plan and research an issue or topic for presentational speaking.
7.A.1: Use a process to plan spoken presentations.
7.A.2: Use research strategies to gather information and evidence for inclusion in spoken presentations.

7.B: Use appropriate vocal and visual strategies to communicate an idea in presentational speaking.
7.B.1: Produce spoken presentations in the appropriate register with an introduction, development of topic, and conclusion.
7.B.2: Use transitional expressions and cohesive devices to create paragraph-length discourse in spoken presentations.
7.B.3: Use pronunciation in spoken presentations that is comprehensible to speakers of the target language.
7.B.4: Use effective intonation patterns, pacing, and delivery in spoken presentations.
7.B.5: Use communication strategies such as circumlocution and paraphrasing to maintain spoken presentations.

7.C: Use appropriate language and vocabulary for the intended audience in presentational speaking.
7.C.1: Use a variety of grammar and syntax in spoken presentations.
7.C.2: Produce simple, compound, and complex sentences in a variety of time frames in spoken presentations.
7.C.3: Monitor language production; recognize errors and attempt self-correction in spoken presentations.

7.D: Express a perspective with details and examples to illustrate an opinion or idea in presentational speaking.
7.D.1: Explain ideas and opinions with examples in spoken presentations.
7.D.2: Compare features (including products, practices, and perspectives) of target cultural communities to those of the student's own community in spoken presentations.

Vision of A Learner Attributes:
TCC3(9-12): I can integrate relevant information to produce multiple valid solutions.
CCE3(9-12): I can show initiative in prompting group discourse and fostering collaboration among others, providing actionable feedback, and working with others to solve problems and/or design products.
TI2(9-12): I can evaluate my objectives and a variety of credible resources to find the best solutions for any challenge.
P3(9-12): I can accept constructive feedback and use setbacks to adjust my learning journey in order to reach my goals.

Understandings: Students will understand that...
- Art and aesthetics play an essential role in shaping culture and societal values.
- The type and medium of popular art (including music, dance, architecture) varies by country
- The role art plays in culture varies between the U.S. and individual francophone countries.

Essential Questions:
- How does art and the concept of beauty influence and shape values in society and culture?
- What are the art mediums in francophone countries and how do they influence culture and society?

Students will know...
- Art and aesthetics have a profound impact on our daily lives.
- Art both reflects as well as challenges cultural perspectives.
- Ways in which art is used to record history as well as communicate shared values.

Students will be able to…
- Identify point of view and purpose.
- infer meanings.
- Summarize content.
- Identify themes or morals.
- Explain and compare cultural products, practices, and perspectives.
- Read and deconstruct letters which inform students about the features of written interpersonal communication
- Build skills in reading and responding to emails.
- Prepare a present a two-minute comparison between their

	community and a francophone community ● Deliver an organized presentation with a thesis statement and supporting evidence. ● Build their repertoire of transitional and cohesive expressions to make more effective comparisons.

Key Vocabulary: l'architecture, les beaux-arts, les arts plastiques, peindre, un chef d'oeuvre, le beau/la beauté, les canons de beauté, un écrivain, un spectacle, percevoir, juger, un réalisateur, une intrigue, un personnage principal, un débutant, les lieux historiques, une peinture/un tableau, l'estime de soi, avoir honte, le savoir-faire, les vestiges, la gastronomie, agréable à voir/entendre, se dérouler, une exposition (d'art), les exigences, une ride, le bien-être, le maquillage

Assessment Evidence

Performance Tasks:	**Other Evidence:**
● Summative #1: Free Response Writing, Email Reply. ● Summative #2: Free Response Oral, Guided conversation. ● Summative #3: MCQ Reading Text/Literature.	Interim Assessments: ● Cultural Comparison Presentation: Free response comparing "le beau" with a particular francophone country and the U.S. ● Article Report and Audio Quiz (MCQs based on text and audio) ● Literary Text Quiz (MCQs based on a short literary text) ● Sentence structure and syntax practice

Learning Plan

- **TCC3(9-12):** Interim: Sentence structure and syntax practice
- **CCE3(9-12)**: Interim: Cultural Comparison Presentation: Free response comparing an aspect of Unit 3 with a particular francophone country and the U.S.
- **TI2(9-12):** Summative #2: Free Response Oral, Guided conversation.
- **P3(9-12):** Summative #1: Free Response Writing, Email Reply.

Teacher Resources:
- VOCES Notre Histoire 4: Chapitre 6 "L'art de la parole"
- TV5Unis: Encre dans la peau
- Teacher and student selected resources including articles, texts, TED Talks, documentaries, etc.
- Google Docs, Google Slides, Google Shared Drive, Google Classroom
- College Board released AP French Language and Culture student samples, scorings guidelines, and rubrics
- AP Classroom

Unit 4 - How Science and Technology Affect Our Lives

Desired Results - Goals, Transfer, Meaning, Acquisition

Established Goals: Established Goals: *Standards based on the French Language and Culture Exam Course Description. For more information visit: www.collegeboard.org.

1.A: Describe the literal meaning of the text.
- 1.A.1: Identify the main idea.
- 1.A.3: Retell or summarize information in narrative form.

1.B: Describe data.
- 1.B.1: Identify and describe patterns and trends in data.
- 1.B.2: Describe data from a table, chart, graph, map, or infographic.

2.B: Make connections in and across disciplines.
- 2.B.1: Identify and/or describe content and connections among interdisciplinary topics.
- 2.B.2: Explain how data from a graph or table illustrate interdisciplinary topics or phenomena.
- 2.B.4: Infer interdisciplinary information from a text.

3.A: Interpret the distinguishing features of a text.
- 3.A.1: Identify the intended audience.
- 3.A.2: Identify the purpose.
- 3.A.3: Identify and/or describe the point(s) of view, perspective(s), tone, or attitude.

4.A: Determine the meaning of familiar and unfamiliar words.
- 4.A.2: Deduce the meaning of unfamiliar words or expressions.

4.B: Use words appropriate for a given context.
- 4.B.1: Use a variety of vocabulary in written and spoken communication.
- 4.B.2: Explain and use idiomatic and culturally authentic expressions.

7.A: Plan and research an issue or topic for presentational speaking.
- 7.A.1: Use a process to plan spoken presentations.
- 7.A.2: Use research strategies to gather information and evidence for inclusion in spoken presentations.

7.B: Use appropriate vocal and visual strategies to communicate an idea in presentational speaking.
- 7.B.1: Produce spoken presentations in the appropriate register with an introduction, development of topic, and conclusion.
- 7.B.2: Use transitional expressions and cohesive devices to create paragraph-length discourse in spoken presentations.
- 7.B.3: Use pronunciation in spoken presentations that is comprehensible to speakers of the target language.
- 7.B.4: Use effective intonation patterns, pacing, and delivery in spoken presentations.
- 7.B.5: Use communication strategies such as circumlocution and paraphrasing to maintain spoken presentations.

7.C: Use appropriate language and vocabulary for the intended audience in presentational speaking.
- 7.C.1: Use a variety of grammar and syntax in spoken presentations.
- 7.C.2: Produce simple, compound, and complex sentences in a variety of time frames in spoken presentations.
- 7.C.3: Monitor language production; recognize errors and attempt self-correction in spoken presentations.

7.D: Express a perspective with details and examples to illustrate an opinion or idea in presentational speaking.
- 7.D.1: Explain ideas and opinions with examples in spoken presentations.
- 7.D.2: Compare features (including products, practices, and perspectives) of target cultural communities to those of the student's own community in spoken presentations.

8.A: Plan and research an issue or topic for presentational writing.
- 8.A.1: Use a process to plan written presentations.
- 8.A.2: Use research strategies to gather information and evidence for inclusion in written presentations.

8.B: Use appropriate writing strategies to communicate an idea for presentational writing.
- 8.B.1: Produce written presentations in the appropriate register with an introduction, development of topic, and a conclusion.
- 8.B.2: Use communication strategies such as circumlocution and paraphrasing to maintain written presentations.

8.C: Understand and apply appropriate and varied syntactical expressions in presentational writing.
- 8.C.1: Use transitional expressions and cohesive devices to create paragraph-length discourse in written presentations.
- 8.C.2: Use a variety of grammar and syntax in written presentations.
- 8.C.3: Produce simple, compound, and complex sentences in a variety of time frames in written presentations.
- 8.C.4: Use standard conventions of the written language (e.g., capitalization, orthography, accents, punctuation) in written presentations.
- 8.C.5: Monitor language production; recognize errors and attempt self-correction in written presentations.

8.D: Express a perspective with details and examples to illustrate an opinion or idea in written presentations.
- 8.D.1: Explain ideas and opinions with examples in written presentations.
- 8.D.2: Integrate information from sources and cite them appropriately in written presentations.

<table>
<tr><td colspan="2">Vision of A Learner Attributes:
TCC2(9-12): I can evaluate evidence from multiple perspectives, and recognize their limitations and implications, in order to justify new conclusions.
TCC3(9-12): I can integrate relevant information to produce multiple valid solutions.
CCE4(9-12): I can communicate and express my understanding in an authentic, respectful and relevant way, using the most effective mode of expression.
TI2(9-12): I can evaluate my objectives and a variety of credible resources to find the best solutions for any challenge.
P4(9-12): I can take-on challenges and continuously engage in my own long-term strategies to overcome them to demonstrate through personal experience that failures are more instructive than discouraging.</td></tr>
<tr><td>Understandings: Students will understand that...
Scientific and technological innovations are driven by cultural factors.
Scientific and technological advances have ethical considerations and that there may be societal consequences.</td><td>Essential Questions:
What factors drive innovation and discovery in the fields of science and technology?
What role do ethics play in scientific advancement?
What are the social consequences of scientific or technological advancements?</td></tr>
<tr><td>Students will know...
Developments in science can both create and resolve challenges in contemporary society.
Technology creates new ways for us to connect with others and impacts and shapes our personal and public identities.
Access to technology affects quality of life and can determine values and ethics in a society.</td><td>Students will be able to…
Describe the literal meaning of the text.
Describe data.
Make connections in and across disciplines.
Interpret the distinguishing features of a text.
Determine the meaning of familiar and unfamiliar words.
Use words appropriate for a given context.
Plan and research an issue or topic for presentational speaking.
Use appropriate vocal and visual strategies to communicate an idea in presentational speaking.
Use appropriate language and vocabulary for the intended audience in presentational speaking.
Express a perspective with details and examples to illustrate an opinion or idea in presentational speaking.
Plan and research an issue or topic for presentational writing.
Use appropriate writing strategies to communicate an idea for presentational writing.
Understand and apply appropriate and varied syntactical expressions in presentational writing.
Express a perspective with details and examples to illustrate an</td></tr>
</table>

	opinion or idea in written presentations.
Key Vocabulary: le cyber-harcèlement, une adresse e-mail, un mot de passe, un moteur de recherche, un outil, un mouchard, effacer, télécharger, guérir, code de verrouillage, soigner, néfaste, délaisser, être accro à, envisager, réfractaire à, de pointe, un brevet d'invention, une découverte capitale, un bienfait, la survie, le dénouement, un lien, en ligne, les réseaux sociaux, le vol d'identité, brancher, faciliter, mettre fin à qch., branché/démodé, fiable, les retombées, la réussite, un chantier majeur de recherches, la tâche, le cerveau	
Assessment Evidence	
Performance Tasks: ● Summative #1: Argumentative essay (Science/Tech related prompt) ● Summative #2: Free Response Oral Presentation ● Summative #3: Cultural Comparison Presentation	**Other Evidence:** ● Article Report and Chart Quiz (MCQs based on text and infographic) ● Interview MCQs (based on interview audio) ● Progress Check, MCQs (based on audio and text sources) ● Sentence structure and syntax interim
Learning Plan	
● **TCC2(9-12):** Summative #1: Argumentative essay (Science/Tech related prompt) ● **TCC3(9-12)**: -Sentence structure and syntax interim ● **CCE4(9-12)**: Summative #1: Argumentative essay (Science/Tech related prompt) ● **TI2(9-12)**: Summative #3: Cultural Comparison Presentation ● **P4(9-12)**: Summative #2: Free Response Oral Presentation (written and oral feedback provided to all students)	
Teacher Resources: ● Thèmes (vistahigherlearning): Unité 2: "La technologie et ses effets sur la société" ● Les Impacts positifs de la technologie sur la société - Medium ● Teacher and student selected resources including articles, texts, TED Talks, documentaries, etc. ● Google Docs, Google Slides, Google Shared Drive, Google Classroom ● College Board released AP Spanish Language and Culture student samples, scorings guidelines, and rubrics ● AP Classroom	

Unit 5 - Factors That Impact the Quality of Life
Desired Results - Goals, Transfer, Meaning, Acquisition
Established Goals: Established Goals: Established Goals: *Standards based on the [French Language and Culture Exam Course Description](). For more information visit: www.collegeboard.org. **1.B: Describe data.** 1.B.2: Describe data from a table, chart, graph, map, or infographic. **2.A: Make cultural connections.** 2.A.1: Identify and/or describe content and connections among cultural topics. 2.A.2: Explain how data from a graph or table illustrate cultural topics or phenomena. 2.A.3: Explain how information from a text connects or relates to the target cultural topics or phenomena. **3.A: Interpret the distinguishing features of a text.** 3.A.2: Identify the purpose. 3.A.3: Identify and/or describe the point(s) of view, perspective(s), tone, or attitude. 3.A.4: Identify organizing and/or rhetorical structures and/or strategies. **3.B: Interpret the meaning of a text.** 3.B.1: Identify and/or describe similarities and/or differences among different types of texts. 3.B.2: Infer implied meanings through context. **4.A: Determine the meaning of familiar and unfamiliar words.** 4.A.1: Determine the meaning of a variety of vocabulary. 4.A.2: Deduce the meaning of unfamiliar words or expressions. **4.B: Use words appropriate for a given context.** 4.B.1: Use a variety of vocabulary in written and spoken communication. 4.B.2: Explain and use idiomatic and culturally authentic expressions. **5.A: Understand and apply appropriate communication strategies in interpersonal speaking.** 5.A.1: Initiate, maintain, and close spoken exchanges. 5.A.2: Comprehend an interlocutor's message in spoken exchanges. 5.A.3: Provide and obtain relevant information in spoken exchanges.

5.A.4: Use appropriate register and greeting for the intended target culture. audience in spoken exchanges.
5.A.5: Use pronunciation that is comprehensible when interacting with speakers of the target language in spoken exchanges.
5.A.6: Use effective intonation patterns, pacing, and delivery when interacting with speakers of the target language in spoken exchanges.
5.A.7: Use communication strategies such as circumlocution, requesting clarification, asking for repetition, and paraphrasing to maintain spoken exchanges.

6.A: Understand and apply appropriate communication strategies in interpersonal writing.
6.A.1: Initiate, maintain, and close written exchanges.
6.A.2: Provide and obtain relevant information in written exchanges.
6.A.3: Use a variety of grammar and syntax in written exchanges.
6.A.4: Use register appropriate for the intended target culture. audience in written exchanges.
6.A.5: Use communication strategies such as circumlocution, requesting clarification, and paraphrasing to maintain written exchanges.

6.B: Understand and apply appropriate and varied syntactical expressions in interpersonal writing.
6.B.1: Use transitional expressions and cohesive devices to create paragraph-length discourse in written exchanges.
6.B.2: Comprehend and produce simple, compound, and complex sentences in a variety of time frames in written exchanges.
6.B.3: Use standard conventions of the written language (e.g., capitalization, orthography, accents, punctuation) in written exchanges.
6.B.4: Monitor language production; recognize errors and attempt self-correction in written exchanges.

7.A: Plan and research an issue or topic for presentational speaking.
7.A.1: Use a process to plan spoken presentations.
7.A.2: Use research strategies to gather information and evidence for inclusion in spoken presentations.

7.B: Use appropriate vocal and visual strategies to communicate an idea in presentational speaking.
7.B.1: Produce spoken presentations in the appropriate register with an introduction, development of topic, and conclusion.
7.B.2: Use transitional expressions and cohesive devices to create paragraph-length discourse in spoken presentations.
7.B.3: Use pronunciation in spoken presentations that is comprehensible to speakers of the target language.
7.B.4: Use effective intonation patterns, pacing, and delivery in spoken presentations.
7.B.5: Use communication strategies such as circumlocution and paraphrasing to maintain spoken presentations.

7.C: Use appropriate language and vocabulary for the intended audience in presentational speaking.
7.C.1: Use a variety of grammar and syntax in spoken presentations.
7.C.2: Produce simple, compound, and complex sentences in a variety of time frames in spoken presentations.
7.C.3: Monitor language production; recognize errors and attempt self-correction in spoken presentations.

7.D: Express a perspective with details and examples to illustrate an opinion or idea in presentational speaking.
7.D.1: Explain ideas and opinions with examples in spoken presentations.

7.D.2: Compare features (including products, practices, and perspectives) of target cultural communities to those of the student's own community in spoken presentations.
Vision of A Learner Attributes: Students will be able to independently use their learning to... ("I can" statements to be demonstrated) ● TCC1(9-12): I can ask purposeful, insightful questions to find a variety of innovative solutions. ● CCE4(9-12): I can communicate and express my understanding in an authentic, respectful and relevant way, using the most effective mode of expression. ● DE1(9-12): I can acknowledge, process, and respond appropriately to others' comments and perspectives. ● P2(9-12): I can strengthen my weaknesses by identifying, initiating, and practicing appropriate strategies to become confident in my ability to overcome my challenges. ● AA2(9-12): I can assess my past successes and mistakes to change my approach.

Understandings: Students will understand that... ● There are a number of factors which determine an individual's quality of life. These factors can be external or internal, and directly related to geography, access to health care, education, and socioeconomic levels.	**Essential Questions:** ● How do aspects of everyday life influence and relate to the quality of life? ● How does where one lives impact the quality of life? ● What influences one's interpretation and perceptions of the quality of life?
Students will know: ● Social status influences one's quality of life. ● Perception and traditions regarding quality of life vary by cultures and communities. ● the main determining factors of an individual's quality of life	**Students will be able to:** ● Describe data. ● Make cultural connections. ● Interpret the distinguishing features of a text. ● Determine the meaning of familiar and unfamiliar words. ● Use words appropriate for a given context. ● Understand and apply appropriate communication strategies in interpersonal speaking. ● Understand and apply appropriate and varied syntactical expressions in interpersonal writing. ● Plan and research an issue or topic for presentational speaking. ● Use appropriate vocal and visual strategies to communicate an idea in presentational speaking. ● Use appropriate language and vocabulary for the intended audience in presentational speaking. ● Express a perspective with details and examples to illustrate an opinion or idea in presentational speaking.

Key Vocabulary: à mi-temps, animé, bosser, cibler, une usine, décoller, démissionner, échouer, efficace, emballer, embaucher/virer, empêcher, en pleine air, emporter, faire du lèche-vitrines, faire la grève, féliciter, gagner sa vie (son pain), gérer, les actualités, l'agence immobilière, l'argent de poche, une autoroute, l'embouteillage, l'enterrement, une bourse, une carte de voeux, une colonie de vacances, la frontière, la livraison, une lune de miel, une panne, la rédaction/composition, la veille, la terminale, le chômage, le sans-abri, faire une stage, le congé, le curriculum-vitae (le CV), le piéton, passer/rater un examen, se plaindre

Assessment Evidence	
Performance Tasks: ● Summative #1: Email Response, Free Written Reply ● Summative #2: Guided Conversation, Advice to a friend ● Summative #3: Cultural Comparison, The Importance of College	**Other Evidence:** ● Literary Text Analysis- MCQs ● Conversation and Chart- Audio and infographic analysis- MCQs ● Interview-Audio source- MCQs

Learning Plan
● **TCC1(9-12):** Summative #3: Cultural Comparison, The Importance of College ● **CCE4(9-12):** Summative #1: Email Response, Free Written Reply ● **DE1(9-12):** Summative #2: Guided Conversation, Advice to a friend ● **P2(9-12):** Self reflection and teacher feedback throughout the Unit ● **AA2(9-12):** Self reflection based upon writing feedback
Teacher Resources: ● TV5Unis: Quelle Famille ● Thèmes (vistahigherlearning): Les Voyages (tourisme et écotourisme au Laos) ● Teacher and student selected resources including articles, texts, TED Talks, documentaries, etc. ● Google Docs, Google Slides, Google Shared Drive, Google Classroom ● College Board released AP Spanish Language and Culture student samples, scorings guidelines, and rubrics ● AP Classroom

Unit 6 - Environmental, Political, and Societal Challenges
Desired Results - Goals, Transfer, Meaning, Acquisition
Established Goals: *Standards based on the French Language and Culture Exam Course Description. For more information visit: www.collegeboard.org. **1.A: Describe the literal meaning of the text.** 1.A.1: Identify the main idea. 1.A.2: Identify supporting / relevant details. 1.A.3: Retell or summarize information in narrative form. **1.B: Describe data.** 1.B.2: Describe data from a table, chart, graph, map, or infographic. **2.A: Make cultural connections.** 2.A.3: Explain how information from a text connects or relates to the target cultural topics or phenomena. 2.A.4: Infer cultural information from a text. **3.A: Interpret the distinguishing features of a text.** 3.A.3: Identify and/or describe the point(s) of view, perspective(s), tone, or attitude. 3.A.4: Identify organizing and/or rhetorical structures and/or strategies. **3.B: Interpret the meaning of a text.** 3.B.2: Infer implied meanings through context. **4.A: Determine the meaning of familiar and unfamiliar words.** 4.A.2: Deduce the meaning of unfamiliar words or expressions. **4.B: Use words appropriate for a given context.** 4.B.1: Use a variety of vocabulary in written and spoken communication. 4.B.2: Explain and use idiomatic and culturally authentic expressions. **7.A: Plan and research an issue or topic for presentational speaking.** 7.A.1: Use a process to plan spoken presentations. 7.A.2: Use research strategies to gather information and evidence for inclusion in spoken presentations.

7.B: Use appropriate vocal and visual strategies to communicate an idea in presentational speaking.
7.B.1: Produce spoken presentations in the appropriate register with an introduction, development of topic, and conclusion.
7.B.2: Use transitional expressions and cohesive devices to create paragraph-length discourse in spoken presentations.
7.B.3: Use pronunciation in spoken presentations that is comprehensible to speakers of the target language.
7.B.4: Use effective intonation patterns, pacing, and delivery in spoken presentations.
7.B.5: Use communication strategies such as circumlocution and paraphrasing to maintain spoken presentations.

7.C: Use appropriate language and vocabulary for the intended audience in presentational speaking.
7.C.1: Use a variety of grammar and syntax in spoken presentations.
7.C.2: Produce simple, compound, and complex sentences in a variety of time frames in spoken presentations.
7.C.3: Monitor language production; recognize errors and attempt self-correction in spoken presentations.

7.D: Express a perspective with details and examples to illustrate an opinion or idea in presentational speaking.
7.D.1: Explain ideas and opinions with examples in spoken presentations.
7.D.2: Compare features (including products, practices, and perspectives) of target cultural communities to those of the student's own community in spoken presentations.

8.A: Plan and research an issue or topic for presentational writing.
8.A.1: Use a process to plan written presentations.
8.A.2: Use research strategies to gather information and evidence for inclusion in written presentations.

8.B: Use appropriate writing strategies to communicate an idea for presentational writing.
8.B.1: Produce written presentations in the appropriate register with an introduction, development of topic, and a conclusion.
8.B.2: Use communication strategies such as circumlocution and paraphrasing to maintain written presentations.

8.C: Understand and apply appropriate and varied syntactical expressions in presentational writing.
8.C.1: Use transitional expressions and cohesive devices to create paragraph-length discourse in written presentations.
8.C.2: Use a variety of grammar and syntax in written presentations.
8.C.3: Produce simple, compound, and complex sentences in a variety of time frames in written presentations.
8.C.4: Use standard conventions of the written language (e.g., capitalization, orthography, accents, punctuation) in written presentations.
8.C.5: Monitor language production; recognize errors and attempt self-correction in written presentations.

8.D: Express a perspective with details and examples to illustrate an opinion or idea in written presentations.
8.D.1: Explain ideas and opinions with examples in written presentations.

8.D.2: Integrate information from sources and cite them appropriately in written presentations.
Vision of A Learner Attributes: Students will be able to independently use their learning to... ("I can" statements to be demonstrated) ● TCC1(9-12): I can ask purposeful, insightful questions to find a variety of innovative solutions. ● CCE4(9-12): I can communicate and express my understanding in an authentic, respectful and relevant way, using the most effective mode of expression. ● DE1(9-12): I can acknowledge, process, and respond appropriately to others' comments and perspectives. ● P2(9-12): I can strengthen my weaknesses by identifying, initiating, and practicing appropriate strategies to become confident in my ability to overcome my challenges. ● AA2(9-12): I can assess my past successes and mistakes to change my approach.

Understandings: Students will understand that... ● Each community has its own set of environmental and economic factors and challenges which have unique effects on its society.	**Essential Questions:** ● How do environmental, political, and societal challenges positively and negatively impact communities? ● What role do individuals play in addressing complex societal issues? ● How do challenging issues affect a society's culture?
Students will know... ● The economic and environmental factors which impact society and politics. ● Ways that individuals can positively or negatively influence the world around them. ● Possible solutions that address contemporary global challenges.	**Students will be able to...** ● Describe the literal meaning of the text. ● Describe data. ● Make cultural connections. ● Interpret the distinguishing features of a text. ● Interpret the meaning of a text. ● Determine the meaning of familiar and unfamiliar words. ● Use words appropriate for a given context. ● Plan and research an issue or topic for presentational speaking. ● Use appropriate writing strategies to communicate an idea for presentational writing. ● Understand and apply appropriate and varied syntactical expressions in presentational writing. ● Express a perspective with details and examples to illustrate an opinion or idea in written presentations.

Key Vocabulary: le réchauffement climatique, l'espérance de vie, les maladies, une manque de, néfaste, les toxicomanes, les fusillades, la régulation des armes, le système de soins de santé, prendre conscience de, se rendre compte de, une crise, la sécheresse, la haine, les

resources s'épuisent, jetable, le gaspillage, une inondation, une canicule, les catastrophes naturelles, l'effet de serre, les grèves, une manifestation, les animaux en voie de disparition, un fléau, le SIDA, le pétrole brut, l'analphabétisme, un ouragan, le fossé des générations, la paix/;a guerre, la mondialisation, SMIC, le développement durable, les réfugiés, le tiers-monde, les besoins, l'espoir, l'eau potable, une disparité

Assessment Evidence	
Performance Tasks: ● Summative #1: Argumentative Essay ● Summative #2: Cultural Comparison (Environment and Natural Resources) ● Summative #3: Cultural Presentation (describe and explain how environmental views and possibly concerns defines identity in a specific French speaking country and compare similar aspects in the United States)	**Other Evidence:** ● Article Report and Chart Quiz (MCQs based on text and chart/graph) ● Presentational Audio Quiz (MCQs based on presentational audio) ● General Proficiency practice and assessment (prior to AP Exam)

Learning Plan
● **TCC2(9-12)**: Summative #1: Argumentative essay (Environment/Natural Resources themed) ● **TCC1(9-12):** Summative #2: Cultural Comparison (Compare/Contrast the views regarding the environment based ● **TI2(9-12)**: Summative #3: Cultural Comparison Presentation
Teacher Resources: **VOCES Notre Histoire 4: Les Puits de Farida** **Thèmes: Les défis mondiaux "l'alimentation et la santé"** **AP Central workbook: "Sauvons le hockey, luttons contre les changements climatiques!** **L'Histoire de VOCES: SOS Océane en Détresse** **Une caméra caché sur le racisme Pembroke** **United Nations Sustainable Development Goals**

Regional School District 14 New Course Proposal

Course Title: French EEC (Eastern Early College)
Grade Level(s): **11th and 12th**
Department: **World Languages**
Faculty Member(s) Submitting Course Proposal: Kate Peterson
Course Description: The French EEC course is year long, including 2 equivalent semesters at Eastern (FRE 210 and FRE 211). Students will be able to engage in conversations and give presentations in the target language, using tenses in the past, present, and future. They will improve their proficiency from a novice high level to an intermediate low level (AATF standards) with practice in reading, writing, and speaking throughout the year, focusing on 6 themes including: family and traditions, beauty, science and technology, the search for oneself, daily living, and world issues. The graduation requirements would help meet the Humanities/WL requirements for graduation.
Rationale for Offering this New Course: Students will have the opportunity to earn college credit before enrolling in a university, in a supportive and enriching environment, providing them an opportunity to delve more deeply into the subject in a meaningful setting. It will give the students an opportunity to prepare themselves to be a global citizen, with second language proficiency (French) that is spoken by over 300 million people worldwide. This course would incentivize students to continue their French studies by adding credit earning opportunities as well as growing their skills and proficiencies.
Prerequisites: French 3 Honors and/or French 4 Honors or any AP French students who have not yet taken advantage of this new course offering.
Long-Term Course Outcomes: Students will be able to converse and write in French at an Intermediate Low level (AATF standards) as well as present a current event in French. They will be able to ask and answer questions on a variety of topics and narrate present and past events. They will be able to write a professional email and persuasive essay on a given topic in French, including global challenges or the use of science and technology.
Scope and Sequence: **FRE 210:** **Families and Communities- 3 to 5 Weeks**. Comprehend written, audio, audiovisual, and visual text related to families in the target culture. ● Make interdisciplinary and cultural connections related to the variety of what makes up a family in the target culture. ● Interpret the content of written or audio text related to families and communities, including education, traditions and dress in the target culture ● Make meanings from words and expressions related to families in the target culture. ● Communicate interpersonally with others related to families in the target culture. ● Communicate through presentations related to families and communities in the target culture. TCC4(9-12): I can integrate my learning to adapt to experiences in the classroom, career and life.

CCE3(9-12): I can show initiative in prompting group discourse and fostering collaboration among others, providing actionable feedback, and working with others to solve problems and/or design products.

The Influence of Beauty and Art- 3 to 5 Weeks. Comprehend written, audio, audiovisual, and visual text related to the Arts in the target culture.

- Make interdisciplinary and cultural connections related to the influence of beauty in the target culture.
- Interpret the content of written or audio text related to beauty and the arts in the francophone world.
- Make meanings from words and expressions related to beauty in the target culture.
- Communicate interpersonally with others related to the arts in the francophone world.
- Communicate through presentations in French related to the influence of Beauty and the arts in the francophone world.

DE1(9-12): I can acknowledge, process, and respond appropriately to others' comments and perspectives.
TCC2(9-12): I can evaluate evidence from multiple perspectives, and recognize their limitations and implications, in order to justify new conclusions.

Science and Technology 3 to 5 Weeks. Comprehend written, audio, audiovisual, and visual text related to science and technology in francophone countries.

- Make interdisciplinary and cultural connections related to science and technology in the target culture.
- Interpret the content of written or audio text related to science and technology in the French, building vocabulary to help comprehend the subject matter.
- Make meanings from words and expressions related to science and technology in the French.
- Communicate interpersonally with others related to science and technology in the French language.
- Communicate through presentations related to science and technology in francophone countries globally.

TCC3(9-12): I can integrate relevant information to produce multiple valid solutions.
TCC2(9-12): I can evaluate evidence from multiple perspectives, and recognize their limitations and implications, in order to justify new conclusions.

FRE 211:
The Influence of Language and Culture on Identity 3 to 5 Weeks. Comprehend written, audio, audiovisual, and visual text related to the influence of language and culture on identity in francophone countries.

- Make interdisciplinary and cultural connections related to the evolution of one's identity in the target culture.
- Interpret the content of written or audio text related to one's identity in the French, building vocabulary to help comprehend the subject matter.
- Make meanings from words and expressions related to the influence of language and culture in the French.
- Communicate interpersonally with others related to life's influences around the globe in the French language.
- Communicate through presentations related to the influence of language and culture in francophone countries globally.

TI3(9-12): I can formulate and investigate probing questions to further my learning.
DE2(9-12): I can honor my own feelings and show empathy toward others through my actions.

Contemporary Life- 3 to 5 Weeks. Comprehend written, audio, audiovisual, and visual text related to contemporary life in the target culture.

- Make interdisciplinary and cultural connections related to contemporary life in the target culture.
- Interpret the content of written or audio text related to contemporary life in the francophone world.
- Make meanings from words and expressions related to contemporary life in the target culture.
- Communicate interpersonally with others related to contemporary life in the francophone world.
- Communicate through presentations in French related to contemporary life.

P3(9-12): I can accept constructive feedback and use setbacks to adjust my learning journey in order to reach my goals.
TCC1(9-12): I can ask purposeful, insightful questions to find a variety of innovative solutions.

Global Challenges- 3 to 5 Weeks. Comprehend written, audio, audiovisual, and visual text related to global challenges in the target culture.

- Make interdisciplinary and cultural connections related to global challenges in the target culture.
- Interpret the content of written or audio text related to global challenges in the target culture
- Make meanings from words and expressions related to global challenges in the target culture.
- Communicate interpersonally with others related to global challenges in the target culture.
- Communicate through presentations related to global challenges in the target culture.

AA3(9-12): I can adjust my expectations and behaviors to succeed in a changing and unpredictable environment.

DE3(9-12): I can recognize my triggers, use appropriate coping strategies, and access relevant resources to help regulate my emotional response.

Required Resources and Projected Financial Needs: No new textbooks are needed at this time. Resources for the course will be provided by the teacher (from an extensive online and physical French library). The cost of credits at Eastern are TBD, although they have mentioned offering tuition waivers for high school students that take free/reduced lunch). Official registration for Eastern will be the 1st week in September. Substitute coverage for one day in early Fall is requested to be able to observe an EEC French teacher in CT.