

BERKELEY HEIGHTS PUBLIC SCHOOLS
BERKELEY HEIGHTS, NEW JERSEY

**COLUMBIA MIDDLE SCHOOL
PRACTICAL ARTS DEPARTMENT**

BUSINESS MARKETING AND PRODUCT DEVELOPMENT

Curriculum Guide

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This curriculum may be modified through varying techniques,
strategies, and materials, as per an individual student's
Individualized Educational Plan (IEP)

Approved by the Berkeley Heights Board of Education
at the regular meeting held on August 11, 2022 .

VISION STATEMENT

STEM is the integrated approach to education in the areas of Science, Technology, Engineering, and Mathematics. Instruction is student centered and driven by an iterative design process, exploratory learning, problem-solving, and engagement in authentic contexts.

Through the process of engaging in authentic, hands-on, open-ended design challenges, students will become familiar with the steps and processes associated with successful problem solving in the context of the engineering design process. Students will gain proficiency in the application of relevant Math, Science, and Technology concepts while expanding their comprehension and understanding of the human-designed world, the nature of technology and engineered systems, and the skills, knowledge, and attitudes necessary to become well-rounded and successful twenty-first century problem solvers and innovators.

MISSION STATEMENT

Business Marketing and Product Development is a one quarter cycle class designed for 7th and 8th grade students at Columbia Middle school that addresses 21st century skills and career ready practices. Students utilize the engineering design process along with design thinking in the development of products and their marketing. Throughout the course, students will be engaged in an authentic problem-based learning environment working as a team and serving in different business marketing and engineering roles. Students will learn to utilize feedback from this process to revise their designs and develop better solutions. This course builds on the foundational knowledge and skills developed in previous STEM courses.

COURSE PROFICIENCIES

COURSE OBJECTIVES

Students will learn and utilize the concepts of design thinking which is an orientation toward learning that encompasses active problem-solving and believing in one's ability to create impactful change. It engenders a sense of creative confidence that is both resilient and highly optimistic.

EMPATHIZE - Design thinking is a process of human-centered innovation, and empathy is its foundation. To empathize, you observe; you view users and their behavior in the context of their lives. You engage; you interact with and interview users through both scheduled and short encounters. You immerse; you put yourself into someone else's shoes and experience what they experience. As a human-centered designer, you need to understand the people for whom you are designing. The problems you are trying to solve are rarely your own – they are those of particular users; in order to design for your users, you must build empathy for who they are and what is important to them.

DEFINE - During the define phase of the design thinking process, you develop a point of view statement, a guiding statement that focuses on specific users, insights, and needs that you uncovered during the empathy mode. The point of view statement is a clear and concise sentence that is referred back to as you move through a design challenge.

IDEATE - Ideation is the process of idea generation. Mentally it represents a process of “going wide” in terms of concepts and outcomes. Ideation provides the fuel for building prototypes and driving innovative solutions. You ideate in order to step beyond obvious solutions. You ideate to harness the collective perspectives and strengths of teams. You ideate to create fluency (volume) and flexibility (variety) in innovation options.

PROTOTYPE & TEST - Prototyping is getting ideas and explorations out of your head and into the physical world. A prototype can be anything that takes a physical form – be it a wall of post-it notes, a role-playing activity, a space, an object, an interface, or even a storyboard. Testing is the chance to refine prototypes and make them better. You place your low-resolution prototypes into the hands of your user and observe. Prototypes that fail in the testing mode are just as useful as prototypes that succeed, because they all contribute to the understanding of how to make a good final product. You build by the saying “fail early and often” – by creating a lot of rough prototypes which are just barely good enough to get the essence of your idea across, you're able to get valuable feedback from users which can be used on another prototype. Going through a few rounds of the prototyping and testing process will give you an incredibly detailed and useful picture of what your final product needs to be.

STUDENT PROFICIENCIES

The students will be able to:

1. Utilize the design thinking process to create solutions to problems
2. Design solutions for their customers by understanding their needs and experiences
3. Create the point of view statements
4. Work in groups using different brainstorming techniques to develop potential solutions
5. Communicate and develop solutions utilizing technology and other tools

METHODS OF EVALUATION

1. Homework and class work
2. Class participation
3. Tests and quizzes
4. Activities and Projects
5. Cooperative learning assignments
6. Cumulative and final project

MODIFICATIONS & ACCOMMODATIONS

Modifications and Accommodations for Special Education students, students with 504s, English Language Learners and Gifted and Talented students may include but are not limited to the following:

Special Education

- Individualized Education Plans (IEPs)
- Exemplars of varied performance levels
- Multimedia presentations
- Sheltered instruction
- Consultation with ESL teachers
- Manipulatives
- Tiered/Scaffolded Lessons
- Mnemonic devices
- Visual aids
- Modeling
- Guided note-taking
- Study Guides
- Modified homework
- Differentiated pre-typed class notes and example problems
- Use of the special education teacher to re-instruct in flexible small groups for the struggling learner
- Manipulatives
- Flipped Instruction
- Word banks
- Reduced choice on assessments
- Preferential seating
- Choice activities
- Modified time requirements
- Modified notes
- Modified lesson, assessment and study guide format
- Provide an enriched curriculum and activities
- Independent projects
- Contracts/behavior support plans
- Open-ended responses
- Project-based learning
- Group activities

- Guided Notes
- Functional learning incorporated into each lesson
- Exploration Activities
- Assessment read aloud
- Small group assessments
- Organizational Support
- Oral questioning assessments to supplement written response
- Pre-writing Structural Supports for extended writing tasks
- Ongoing teacher feedback as part of the writing process
- Interactive Study Guides
- Multi-sensory approach to instruction
- Written and spoken step-by-step directions
- Content-focused assessment (not grading for spelling/grammar)
- Graphic organizers
- Non-verbal cues to begin task/remain on task/refocus
- Individual monitoring for understanding/reinforced instruction
- Printed copies of class readings for application of Active Reading Strategies

Gifted & Talented

- Provide one-to-one teacher support
- Curriculum Compacting
- Advanced problems to extend the critical thinking skills of the advanced learner
- Supplemental reading material for independent study
- Elevated questioning techniques using Webb's Depth of Knowledge matrix
- Curriculum Compacting
- Flexible grouping
- Tiered assignments
- Topic selection by interest
- Manipulatives
- Tiered Lessons
- Flipped Instruction
- Multimedia Presentations
- Open-ended responses
- Project-based learning
- Group activities
- Guided Notes
- Conclusions and analysis of exploratory activities
- Career based learning incorporated into each lesson
- Exploration Activities

- Student choice

ELLs

- Exemplars of varied performance levels
- Multimedia presentations
- Sheltered instruction
- Consultation with ESL teachers
- Manipulatives
- Tiered/Scaffolded Lessons
- Mnemonic devices
- Visual aids
- Modeling
- Guided note-taking
- Study Guides
- Modified homework
- Differentiated pre-typed class notes and example problems
- Individualized instruction plans
- Manipulatives
- Flipped Instruction
- Words banks
- Reduced choice on assessments
- Preferential seating
- Choice activities
- Modified time requirements
- Modified notes
- Modify lesson, assessment and study guide format
- Provide an enriched curriculum and activities
- Contracts/management plans
- Open-ended responses
- Project-based learning
- Group activities
- Guided Notes
- Exploration Activities
- Assessment read aloud
- Small group assessments
- Oral questioning assessments to supplement written response
- Pre-writing Structural Supports for extended writing tasks
- Ongoing teacher feedback as part of the writing process
- Interactive Study Guides

- Multi-sensory approach to instruction
- Written and spoken step-by-step directions
- Graphic organizers
- Non-verbal cues to begin task/remain on task/refocus
- Individual monitoring for understanding/reinforced instruction
- Printed copies of class readings for application of Active Reading Strategies

504s

- Exemplars of varied performance levels
- Multimedia presentations
- Sheltered instruction
- Tiered/Scaffolded Lessons
- Mnemonic devices
- Visual aids
- Modeling
- Guided note-taking
- Study Guides
- Differentiated pre-typed class notes and example problems
- Manipulatives
- Words banks
- Reduced choice on assessments
- Preferential seating
- Modified time requirements
- Modified notes
- Modify lesson, assessment and study guide format
- Modified homework
- Independent projects
- Contracts/management plans
- Open-ended responses
- Project-based learning
- Group activities
- Guided Notes
- Exploration Activities
- Assessment read aloud
- Small group assessments
- Organizational Support
- Oral questioning assessments to supplement written response
- Pre-writing Structural Supports for extended writing tasks
- Ongoing teacher feedback as part of the writing process
- Interactive Study Guides
- Multi-sensory approach to instruction
- Written and spoken step-by-step directions
- Content-focused assessment (not grading for spelling/grammar)
- Graphic organizers

- Non-verbal cues to begin task/remain on task/refocus
- Individual monitoring for understanding/reinforced instruction
- Printed copies of class readings for application of Active Reading Strategies

Students at Risk of Failure

- Exemplars of varied performance levels
- Multimedia presentations
- Tiered/Scaffolded Lessons
- Modeling
- Guided note-taking
- Study Guides
- Differentiated pre-typed class notes and example problems
- Individualized instruction plans
- Words banks
- Reduced choice on assessments
- Preferential seating
- Choice activities
- Modified time requirements
- Modified notes
- Modified lesson, assessment and study guide format
- Modified homework
- Provide an enriched curriculum and activities
- Contracts/management plans
- Open-ended responses
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- Interactive Study Guides
- Multi-sensory approach to instruction
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- Non-verbal cues to begin task/remain on task/refocus
- Individual monitoring for understanding/reinforced instruction
- Printed copies of class readings for application of Active Reading Strategies

Diversity, Equity, and Inclusion Curriculum Statement

Berkeley Heights public schools are committed to recognizing diversity and promoting equity, tolerance, and inclusion in our classrooms. We encourage a safe, welcoming, and inclusive environment for all students regardless of race or ethnicity, sexual and gender identities, mental and physical disabilities, and religious beliefs. Our curriculum infuses teaching of these principles and addresses all associated standards and laws. This includes, but is not limited to:

C.18A:35-4.35 - History of disabled and LGBT persons

A board of education shall include instruction on the political, economic, and social contributions of persons with disabilities and lesbian, gay, bisexual, and transgender people, in an appropriate place in the curriculum of middle school and high school students as part of the district's implementation of the New Jersey Student Learning Standards.

18A:35-28. Instruction on Holocaust, genocides required in elementary, secondary school curriculum

a. Every board of education shall include instruction on the Holocaust and genocides in an appropriate place in the curriculum of all elementary and secondary school pupils.

b. The instruction shall enable pupils to identify and analyze applicable theories concerning human nature and behavior; to understand that genocide is a consequence of prejudice and discrimination; and to understand that issues of moral dilemma and conscience have a profound impact on life. The instruction shall further emphasize the personal responsibility that each citizen bears to fight racism and hatred whenever and wherever it happens.

Section: 52:16A-88: Responsibilities, duties of Amistad Commission

g. to develop, in consultation with the Department of Education, curriculum guidelines for the teaching of information on the African slave trade, slavery in America, the vestiges of slavery in this country, and the contributions of African-Americans to our country. Every board of education shall incorporate the information in an appropriate place in the curriculum of elementary and secondary school students;

Examples of how these concepts and principles are infused into this curriculum include:

- **Spotlight Reports: students share monthly news/reports about current and past STEM leaders and their contribution to the field - Ongoing**
- **Discussion of Stephen Hawking - Unit 9: Modern Physics**

Additionally, components of this are tagged throughout the curriculum as appropriate (i.e. standards, objectives, activities). Tagging convention is outlined below:

- **DEI** - Diversity, Equity and Inclusion Learning
- **AM** - Learning associated with Amistad
- **HG** - Learning associated with Holocaust and Genocide
- **SEL** - Social-Emotional Learning
- **L+** - Learning associated with LGBTQ+ and Neurodiverse communities

Climate Change Curriculum Statement

With the adoption of the [2020 New Jersey Student Learning Standards \(NJSLS\)](#), New Jersey became the first state in the nation to include climate change across content areas. These standards are designed to prepare students to understand how and why climate change happens, the impact it has on our local and global communities and to act in informed and sustainable ways.

Districts are encouraged to utilize the NJSLS to develop interdisciplinary units focused on climate change that include authentic learning experiences, integrate a range of perspectives and are action oriented. While the [2016 NJSLS-English Language Arts \(ELA\) and Mathematics](#) do not have specific climate change standards, districts may want to consider how they can design [interdisciplinary climate change units](#) that incorporate relevant ELA and mathematics standards. Likewise, it may be helpful to review the [2020 NJSLS documents](#) to identify other relevant standards that might be incorporated as well as to understand the role of core ideas, performance expectations and practices in curriculum development and lesson planning.

Standards and/or activities addressed in this curriculum includes:

- 6.2.12.CivicsHR.6.b: Make an evidence-based argument on the tensions between national sovereignty and global priorities regarding economic development and environmental sustainability and its impact on human rights.
- 6.2.12.CivicsPI.6.a: Use historic case studies or a current event to assess the effectiveness of multinational organizations in attempting to solve global issues.

Components of this are tagged throughout the curriculum as appropriate: CC - Climate Change.

*** Climate Change Curriculum Statement section highlighted in yellow gets deleted (by the teacher or supervisor) if the course does not explicitly involve climate change units, activities, or standards. ***
This statement gets deleted on every curriculum guide upon completion.

Career Readiness, Life Literacies, and Key Skills Practices

Career Readiness, Life Literacies, and Key Skills Practices describe the habits of the mind that all educators in all content areas should seek to develop in their students. They are practices that have been linked to increased college, career, and life success. These practices should be taught and reinforced in all content areas with increasingly higher levels of complexity and expectation as a student advances through a program of study.

| 2020 NJSLS - Career Readiness, Life Literacies, and Key Skills Practices | |
|---|---|
| CLKS-P1 | Act as a responsible and contributing community member and employee. |
| CLKS-P2 | Attend to financial well-being. |
| CLKS-P3 | Consider the environmental, social and economic impacts of decisions |
| CLKS-P4 | Demonstrate creativity and innovation. |
| CLKS-P5 | Utilize critical thinking to make sense of problems and persevere in solving them. |
| CLKS-P6 | Model integrity, ethical leadership and effective management. |
| CLKS-P7 | Plan education and career paths aligned to personal goals. |
| CLKS-P8 | Use technology to enhance productivity, increase collaboration and communicate effectively. |
| CLKS-P9 | Work productively in teams while using cultural/global competence. |

Pacing Guide

| Unit Number | Unit Name | Suggested Pacing |
|--------------------|--|-------------------------|
| 1 | Design Thinking | 12-15 days |
| 2 | Pricing/Budgeting/ Revenue and Cost | 12-15 days |
| 3 | Marketing and Advertising | 12-15 days |

SCOPE AND SEQUENCE
COURSE OUTLINE/STUDENT OBJECTIVE

Unit 1: Design Thinking

Duration: 12-15 days

Overview: Students will understand the basic steps of design thinking and how they can be applied to different design challenges.

Standards:8.2.8.D.3, 8.2.8.D.3

Technology:8.2.8.D.3, 8.2.8.D.3

CLKS: P1, P2, P3, P4, P5, P6, P7, P8, P9

Cross-Curricular:MS-ETS1-1. ,MS-ETS1-2. , MS-ETS1-3; NJSLSA.W4.

Essential Questions:

- How does design thinking and the engineering process impact successful product design?

Student Learning Objectives:

Students will know and be able to...

- engage in a design challenge
- develop empathy
- conduct an interview
- synthesize information
- brainstorm ideas
- build prototypes
- test prototypes
- share information

Possible Activities

- Gumdrops structure
- Backpack design challenge
- Toy/Game/Sport challenge
- Tiny home structure
- Design a cupcake

Unit 2: Pricing/ Budgeting/ Revenue and Costs

Duration: 12-15 days

Overview: Students will understand the basic steps of how products are priced. They will develop production cost models with projected demands and discuss supply chain issues.

Students will investigate supply and demand as it relates to their products in order to set optimal pricing.

Standards:8.2.8.D.3, 8.2.8.D.3

Technology:8.2.8.D.3, 8.2.8.D.3

CLKS: P1, P2, P3, P4, P5, P6, P7, P8, P9

Cross-Curricular Connections:MS-ETS1-1. ,MS-ETS1-2. , MS-ETS1-3; NJSLSA.W4; 6.1.4.C.4

Essential Questions:

- What is the difference between profit and cost or revenue?
- What determines the cost of making a product and selling a product?
- What marketing approaches are used and are successful?
- How do you make products appealing to the consumer?

Student Learning Objectives:

Students will know and be able to...

- Develop a pricing and marketing plan
- Research material and production costs
- Explain how deal's effect purchasing a product
- Share information
- Brainstorm
- Synthesize information

Possible Activities

- Gumdrop structure
- Backpack design challenge
- Toy/Game/Sport challenge
- Tiny home structure
- Design a cupcake

Unit 3: Marketing and Advertising

Duration: 12-15 days

Overview: Students will develop marketing plans and advertising strategies for various products and understand how effective marketing and advertising affects sales

Standards:8.2.8.D.3, 8.2.8.D.3; 9.1.8.E.3,8

Technology:8.2.8.D.3, 8.2.8.D.3

CLKS: P1, P2, P3, P4, P5, P6, P7, P8, P9

Cross-Curricular Connections: MS-ETS1-1. ,MS-ETS1-2. , MS-ETS1-3; NJSLSA.W4.

Essential Questions:

- What makes a good advertisement?

- What marketing approaches do people use?
- What makes products seem appealing?
- When and how is the best time to reach your customers?

Student Learning Objectives:

Students will know and be able to...

- engage in a design challenge
- develop a marketing plan
- Describe elements of marketing that include, advertising, product placing, pricing and promotion
- synthesize information
- brainstorm ideas
- share information

Possible Activities

- Gumdrops structure
- Backpack design challenge
- Toy/Game/Sport challenge
- Tiny home structure
- Design a cupcake

SUGGESTED MATERIALS AND RESOURCES

www.spencerauthor.com/design-thinking/

[https://dschool-old.stanford.edu/.../Design Thinking Projects and Challenges.html](https://dschool-old.stanford.edu/.../Design_Thinking_Projects_and_Challenges.html)

<https://thehomeschoolscientist.com>

<https://www.calacademy.org/educators>

*Or other literature, video, or digital materials of equal academic worth