South Brunswick School District

SBSD

CURRICULUM GUIDE FOR TECHNOLOGY EDUCATION

A Parent's Guide to the Curriculum

Curriculum Aligned to NJCCCS

(Encore Revised June 2015)

District Mission

The South Brunswick School District will prepare students to be lifelong learners, critical thinkers, effective communicators and wise decision makers. This will be accomplished through the use of the New Jersey Core Curriculum Content Standards (NJCCCS) and/or the Common Core State Standards (CCSS) at all grade levels. The schools will maintain an environment that promotes intellectual challenge, creativity, social and emotional growth and the healthy physical development of each student.

~Adopted 8.22.11

Board Approval of Technology Education Curriculum
August 2016

This curriculum is approved for all regular education programs as specified and for adoption or adaptation by all programs including those for Special Education, English Language Learners, At-Risk Students and Gifted and Talented Students in accordance with Board of Education Policy

Note to Parents

The curriculum guide you are about to enter is just that, a guide. Teachers use this document to steer their instruction and to ensure continuity between classes and across levels. It provides guidance to the teachers on what students need to know and able to do with regard to the learning of a world language.

The curriculum is intentionally written with some "spaces" in it so that teachers can add their own ideas and activities so that the world language classroom is personalized to the students.

If you have any questions regarding the program, please contact the Technology Supervisors or Tech Staff Developer: Tracey.Ricco@sbschools.org, Amanda.Rosenberg@sbschools.org, Aparna.Rajagopal@sbschools.org, Kristin.Laskin@sbschools.org

How to Read the Curriculum Document

CURRICULUM	Area of content (e.g. Science)
TOPIC	Course or Unit of Study (e.g. Biology)
GRADE LEVEL	Grade Level Cluster (e.g. High School) or specific grade level (e.g. Kindergarten)
SUMMARY	A brief overview of the course or unit of study.
RATIONALE	A statement as to why we are teaching this course or unit.
INTERDISCIPLINARY CONNECTIONS	Which other areas of content to which there is major linkage. For example, a health education unit might link to science, language arts, social studies, art, physical education, etc.
21ST CENTURY CONNECTIONS	How this course or unit is preparing students to be college and career ready. Referred to as S.A.L.T., each course or unit indicates which of the following it is building: • Skills such as critical or creative thinking, collaboration, communication, or core values • Awareness such as global, cross-cultural or career. • Literacy such as information, media, technology, etc. • Traits necessary for success in life and careers such as productivity.
TERMINOLOGY	Key vocabulary and terms
STANDARDS	Here you will find the standards that this course or unit of study is addressing. Our curriculum is standards-based. The standards are the foundation of the unit. You can get more information on state standards by going to the NJ Department of Education at **www.state.nj.us/education/cccs**
ENDURING UNDERSTANDINGS	The big ideas, concepts or life lessons that students walk away with at the end of a unit of study.
ESSENTIAL QUESTIONS	Open ended questions that are considered throughout the unit of study. These are big, "worthy of wonder" questions often with multiple responses.
OBJECTIVES	The discrete skills and knowledge that students will gain during the unit of study.
ASSESSMENTS	Assessments (tests, quizzes, projects, activities) that tell us if the students grasped the enduring understandings of the unit.
LESSON PLANS & PACING	Scope and sequence of lessons: how many, how long & approximately in what order.
RESOURCES	Major resources associated with the course or unit.

Technology Acknowledgments

We are appreciative of the leadership provided by the teachers, specialists and supervisors who served on the curriculum writing teams. In many cases, our lessons and units are "home-grown." While aligning with state standards, they are designed with the needs of the South Brunswick student population in mind.

Articulation

The elementary tech educators meet several times a year but often with greater frequency to assure program continuity and systematic implementation. At the middle school, technology teachers meet with regularity as part of the schools' meeting schedules. At the high school level technology teachers work together to develop and revise curriculum. During the school year, they meet regularly to reflect and discuss the rigor and relevance of program delivery and alignment of state standards in order to provide for the success and consistency of instruction.

In addition to the above, the K-12 Tech Educators meet bi-monthly for vertical articulation with the full Tech Department, to review and map the standards, and ensure alignment with state and national technology standards.

Advances in computer technology and the Internet have changed the way America works, learns, and communicates. The Internet has become an integral part of America's economic, political, and social life.
~Bill Clinton

TECHNOLOGY EDUCATION: TABLE OF CONTENTS

TECHNOLOGY EDUCATION: OVERVIEW

Mission
All students will be prepared to meet the challenge of a dynamic global society in which they participate, contribute, achieve, and flourish through unlimited access to people, information and ideas.
~Belief Statement, NJ State Technology Plan 2010-2013

The District's Technology Education program provides students with an opportunity to construct, transform and interpret data through the use of technology. The purpose of technology instruction and tech applications is to offer students both choice and flexibility when deciding which tools (digital or otherwise) will best help to validate and/or solve real world problems. As Tech Educators, we are committed to providing sequenced instruction over time in order to prepare our students for a world in which productivity is measured through the increased utilization of technology applications.

Goals
- To introduce students to technology in a variety of ways and through a variety of content
- To instruct students to use technology to research, create and/or modify information
- To provide students with the tools, digital and otherwise, to solve problems
- To present students with legal and ethical guidelines and give them the opportunity to demonstrate their importance and purpose
- To teach students to abide by the acceptable use policy for safe Internet and networking use
- To make students aware of the careers that involve a proficient use of technology

Content
The NJ Core Curriculum Content Standards in Education Technology were designed to not stand-alone but to be integrated into and applied to all areas of content. South Brunswick School District's approach to the NJCCCS has been to infuse technology standards and use of digital tools into the curriculum where meaningful and purposeful. In each curriculum document, there is explicit reference to this infusion.

While tech integration takes place across grade levels and content, students are also given targeted instruction in technology use and application through standardized projects, tasks, or courses. This systematic approach to tech education begins in Kindergarten and continues through Grade 12. It puts into use the digital tools that are a part of a student's classroom, library-media center, and/or tech lab.

Standards
All students will use digital tools to access, manage, evaluate, and synthesize information in order to solve problems individually and collaboratively and to create and communicate knowledge.

Technology Education, Engineering, and Design: All students will develop an understanding of the nature and impact of technology, engineering, technological design, and the designed world, as they relate to the individual, global society, and the environment. A complete copy of the standards may be found at: www.state.nj.us/education/cccshttp://www.state.nj.us/education/cccs

Assessment
We use multiple assessment strategies. Assessments range from case studies, hands-on group projects, simulation activities, Internet-based or data based research projects and presentations to objective quizzes and tests. We believe that assessments should be developed strategically to measure learning while keeping learning styles and the multiple intelligences in mind.

Benchmark Assessments for Technology
There are benchmark points at which we assess students' acquisition of technology skills and abilities.
- K/1 Tech Infused Projects – Rubric scored
- 2-5 Elementary Tech Infused Projects – Pre and Post Assessments
- 3-5 Grade Research Tasks- Rubric scored
- Elementary School Classroom Tech Infused Projects- various assessments
- 6-8 Encore Courses Pre and Post Tests
- 6-8 Grade Research Tasks- Rubric scored
- 8 Grade NJ TAPIN
- Middle School Classroom Tech Infused Projects- various assessments
- 9th Grade 21 Century Courses- Pre and Post Tests
- 10-12 HS Tech Electives- Pre and Post Tests
- 12 Grade Research Task- Rubric scored
- High School Classroom Tech Infused Projects- various assessments

21st Century Connections
Character Education- Technology education reinforces the core values. It requires individual accountability and group collaboration, responsibility to self and others, and self control in the careful use of digital tools. Cooperative learning activities stress assertion and cooperation.

Career Education- There is a natural connection to the 21st Century Life and Career NJCCCS in the technology education curriculum. There are explicit uses of technology in career awareness, exploration and development and the career clusters as evidenced in research tasks, interdisciplinary units, and Naviance.

Technology Education- The Educational Technology standards form the core of the program as we educate students to locate, access, manage, evaluate, and synthesize information. Continual focus and attention is paid to copyright laws, ethical use, and the Acceptable Use Policy.

Interdisciplinary- The technology courses, projects and tasks are developed and maintained to support all curricular areas. Additionally, the collaborative nature of our work with teachers ensures that content area standards are being addressed together with the tech education standards.

Program Delivery
The delivery of technology education differs by level.

At all levels, technology education standards are interwoven into the core content. In addition, technology infused instruction is offered via "courses" and system-wide projects as well.

TECHNOLOGY EDUCATION: ELEMENTARY PROGRAM

Program Delivery
Students in each grade level participate in a standardized technology infused project that is delivered by the Elementary Tech Educator and supported by the classroom teacher. The Tech Educator models for the teacher and provides professional development support and credit on the Intro, Guided and Independent levels.

Students in grades 3-5 participate in systematic research tasks that require students to use digital tools to locate and present information. The teacher and Library Media Specialist are partners in this work.

In addition, teachers extend technology into their instruction where meaningful and purposeful. Each curriculum area notes the explicit technology connections.

Enduring Understandings
    Technology helps me communicate my ideas.
    Respect the cultures of others in my classroom and my community.
    Working together with my classmates to create a safe and peaceful classroom is important.
    Setting goals helps us to be successful.
    Thinking "outside of the box" and collaborating with others will help me to solve problems and create new and innovative things.
    It is my responsibility to use technology safely and appropriately.
    Because technology changes at a rapid pace, adapting to new digital tools is an important lifelong skill.

Essential Questions
    How can I use technology to communicate my ideas?
    How can I show respect for the differences in cultures within my classroom and my community?
    What are the ways I can contribute to a safe and peaceful classroom?
    How can I reach the goals that I set for myself?
    How can I collaborate with others to create something new?
    How do I manage Cyber Safety rules while taking full advantage of online resources?
    Because technology changes at a rapid pace, how can adapting to new technologies help me to be a lifelong learner?

Benchmark Assessments
        K/1 Tech Infused Projects - Rubric scored
        2-5 Elementary Tech Infused Projects – Pre and Post Assessments
        4 Grade NJ Checklist
        3-5 Grade Research Task- Rubric Scored

Technology Models
        Kindergarten/First Grade- teacher station, iPads, mounted projector, iPEVO
        Second Grade-Fifth Grade- teacher station, mounted projector, iPEVO, Classroom Chromebooks, access to Chromebook Carts

Projects and Scope and Sequence

Level	Standardized Tasks (Subject to change each year.)
K	**Kindergarten Teen Numbers Project** Our kindergarten students will utilize an app called Moldiv on the iPads to create photo collages to represent the teen numbers. During this one day project, the students will create representations of a given number and learn to take multiple digital photographs to illustrate that number. They will also utilize the iPad keyboard to type their name. Resources and materials: • SCOPA plan • Presentation • Moldiv Explained - For Teachers • Student Directions • Student Friendly Objective Card • Assessment Checklist • Extension Activities (optional)
1	**First Grade Fall Pumpkin Project** Our 1st graders will utilize an app called Skitch on the iPads to create a labeled diagram of a pumpkin. During this one-day project, the first graders will learn to take a digital photograph, draw arrows, and enter text to label parts of a cross-section of a pumpkin. Resources and materials: • SCOPA plan • Presentation • Skitch Explained - For Teachers (Slides 1-4) • Student Directions & Word Bank (Slides 5-7) • Student Friendly Objective Card • Assessment Checklist • Extension Activities (optional)
2	**Grade 2 Fall Intro Lessons** Our 2nd graders will be introduced to to Chromebooks, Google Drive, and the Typing Club app with 2 days of interactive learning experiences. Day One will include a Chromebook Scavenger Hunt where students can work together to get to know Chromebooks and be introduced to Google Drive. On Day two, students will be exploring the app Typing Club in order to familiarize themselves with the routines needed to practice their keyboarding skills. **Intro to Chromebooks 2015** This lesson will help introduce our 2nd graders to Chromebooks and Google Drive basics with this interactive learning activity. The lesson will take place in the fall. Resources and materials: • SCOPA plan

Level	Standardized Tasks (Subject to change each year.)
	• Presentation • How to Packet • Chromebook Scavenger Hunt Sheet (Page 1) • Assessment Checklist (One checklist is used for both days.) • Chromebook Expectations **Google Docs - "Why I'm Awesome"** *Note: This lesson is **optional** and is designed to help introduce Google Docs to students in a fun and easy way. In this 2-day lesson, 2nd graders will learn to use Google Drive. They will each be asked to identify one of their strengths and then work with a partner to create a document celebrating each of those strengths. The students will learn to create & share a document, type sentences using capitals and periods, format font, size, & color, and learn to use spell check. Resources and materials: • SCOPA plan • Day 1 Presentation • How to Packet • "Why I'm Awesome" Planning Sheet • Student "To Do" List - Day 1 • Student "To Do" List - Day 2 • Assessment Checklist (One checklist is used for both days.) **Intro to Typing Club 2015** This lesson will help introduce the Typing Club app to 2nd graders and provide them with hands-on experience. Resources and materials: • SCOPA plan • Presentation • How to Packet • Typing Club Recording Sheet (Page 2) • Assessment Checklist (See above: One checklist is used for both days.) Additional Typing Resources • Chromebook Passports - Booklet or Sheet • Keyboard Guy (Great for learning usernames & passwords) • Keyboard Hand Position • Keyboarding Websites
3	**Grade 3 Tech Project 2015** Our 3rd graders will refresh their memory of Chromebook and Google Drive basics and get introduced to Google Classroom with 2 days of interactive learning experiences. Day

Level	Standardized Tasks (Subject to change each year.)
	One will include a Chromebook Challenge where students can work together to explore the Chromebooks and Google Drive. On Day Two, students will be engaging in online discussions within the Google Classroom learning community with their grade level peers about a current event topic. Day One: Chromebook Challenge 2015 • Mini Lesson Presentation • Student Activity Sheet (To be used as a checklist) • SCOPA Plan • Assessment Checklist • How to Packet Day Two: Google Classroom Activity • SCOPA Plan • Mini Lesson Presentation (optional) • Student Checklist Packet • Student How to Packet • Teacher Assessment Checklist • NASA Article • Google Classroom "Help Center" • Go to: Google Classroom Digital Apps for Formative Assessment • Kahoot! Make Learning Awesome! • Kahoot Help Center • Plickers Tutorials - Getting Started & beyond • Plickers Activity Cards **Standards met:** **In the Chromebook Challenge** 8.1.P.A.1 Use an input device to select an item and navigate the screen. 8.1.P.A.2 Navigate the basic functions of a browser. 8.1.P.A.4 Use basic technology terms in the proper context in conversation with peers and teachers. 8.1.P.A.5 Demonstrate the ability to access and use resources on a computing device. 8.1.2.A.1 Identify the basic features of a digital device and explain its purpose. 8.1.2.A.2 Create a document using a word processing application. 8.1.5.A.1 Select and use the appropriate digital tools and resources to accomplish a variety of tasks including solving problems. 8.1.5.A.2 Format a document using a word processing application to enhance text and include graphics, symbols and/ or pictures. 8.1.5.D.4 Understand digital citizenship and demonstrate an understanding of the personal consequences of inappropriate use of technology and social media.

Level	Standardized Tasks (Subject to change each year.)
	In Google Classroom 8.1.P.A.4 Use basic technology terms in the proper context in conversation with peers and teachers. 8.1.P.A.5 Demonstrate the ability to access and use resources on a computing device. 8.1.2.A.4 Demonstrate developmentally appropriate navigation skills in virtual environments. 8.1.5.A.1 Select and use the appropriate digital tools and resources to accomplish a variety of tasks including solving problems. 8.1.2.C.1 Engage in a variety of developmentally appropriate learning activities with students in other classes, schools, or countries using various media formats such as online collaborative tools, and social media. 8.1.5.D.3 Demonstrate an understanding of the need to practice cyber safety, cyber security, and cyber ethics when using technologies and social media. 8.1.5.D.4 Understand digital citizenship and demonstrate an understanding of the personal consequences of inappropriate use of technology and social media. 8.1.5.E.1 Use digital tools to research and evaluate the accuracy of, relevance to, and appropriateness of using print and non-print electronic information sources to complete a variety of tasks.
3	**Out of Sight Research Task:** This unit gives students their first structured opportunity to follow a modeled research process, including note taking, citing sources, and creating a new information product. Students will relate and extend their knowledge of characteristics of the Earth to other planets of our solar system.
3	**Immigration and Your Culture Research Task:** This unit of the third grade Social Studies curriculum focuses on the many aspects of Immigration, (Colonists, African Slaves, and present day), and Citizenship all the while having students learn more about their families' ethnic heritage.
4	**Grade 4 Tech Project - Playground Project** Students will collaborate to produce a Google Slides presentation including a survey analysis and the determining factors behind building a new community playground. Resources and materials: • SCOPA Plans • Whole Class Lesson Presentation • Student How-to Packet • Student Worksheets • Google Classroom "**Help Center**" • Go to: Google Classroom
4	**Ecosystems or Biomes Research Task** Working in groups, students will research and take notes on an assigned Biome. Each student is responsible for finding specific information about the assigned Biome. Groups will then work collaboratively to apply what they learn from the research to create a

Level	Standardized Tasks (Subject to change each year.)
	PowerPoint presentation. Students are responsible for their own slide, and will present the PowerPoint as a cohesive group to their classmates.
4	**Research Task: Safety Is Easy as ABC (Always Be Careful)** Students will discover what it takes to be safe in each of these areas and what can occur if safety procedures are not followed. In small groups, they will research an assigned area, take notes using a graphic organizer, decide which key findings to include in a safety flyer for parents, develop a mini lesson plan for teaching other students about being safe in their area of research, rehearse their lesson so they can present their information in a practiced manner, and then share their facts with other students.
5	**Grade 5 Tech Project - Storytelling Project** Students will collaborate to produce a digital story about a local (global) event via the Educreations app. • Day One: Choose a story; summarize and then create a 3 - 5 slide storyboard • Day Two and Three: Create and publish their story via Educreations. • Extension: Blog about the project. •
5	**Five Themes of Geography Research Task:** Students will select or be assigned an area of the world (a country or an American city or state) and will use the database Culturegrams to glean information about the Five Themes as they relate to this area. Students will learn how to navigate the database, take notes using a graphic organizer, cite sources, and present their findings in a PowerPoint presentation which they create with peers and share with others.
5	**Careers Research Task:** This task was designed to meet the College and Career Readiness Standards requiring our 5th grade students to gain an awareness of various careers and gain a basic understanding of how careers are clustered. After conducting research on career clusters and specific occupations, students will produce a report of his/her findings based on a pre-assigned job.

Curriculum Notes

Technology resources and materials for Tech Infused Projects are posted for staff on the District's K-5 Tech Weebly:
sbtechpd.weebly.com

Research Curriculum: The curriculum for the research tasks along with the units of study and lesson plans are found in the Research Curriculum Document.

TECHNOLOGY EDUCATION: MIDDLE SCHOOL PROGRAM

Program Delivery

Students at the middle level receive tech-infused instruction in their core classes. Middle School students also take Technology Education Courses as part of their Tech Encore Program.

Supplementing this, a Tech Educator support tech-infused instruction and does the following:
- Co-delivers, models and supports tech instruction with core and special subject teachers
- Teaches in the Encore program
- Introduces student to Family Connect portal and provides access to the online grade book

In addition, students in grades 6-8 participate in standardized research tasks that require students to use digital tools to locate and present information. The Library Media Specialist and teachers partner in this work.

Enduring Understandings
- Technology is a tool that helps to organize knowledge, and assists in the communication of those ideas and experiences.
- For students to effectively prepare for a career in the 21st Century, they will need to exercise their skills and express their knowledge in a world that is driven with constantly evolving digital tools.
- Even though programs and computers are different and will consistently evolve, personal and independent exploration will allow one to find where these features exist and how to best utilize them for maximum clarity and creative expression.

Essential Questions

Regardless of ones personal computer, device or software, what similar capabilities exist between them and the software used?

How have multimedia programs transformed from previous programs, and what are the implications going forward when using upgraded programs?

What features are available in multimedia programs that define and enhance presentations and communications?

Benchmark Assessments

8th Grade NJTAP-IN

6th-8th Research Task Rubrics

Technology Models

Unit Teachers: teacher workstation, mounted projector, Chromebook Cart, iPEVOs

Tech Encore: teacher workstation, mounted projector, Computer Labs/Chromebooks, iPEVOs

Research: COWs, Chromebook Carts, Library Computer Bank

Content Specific Technology:
- Math- SmartBoards
- Science- SmartBoards and bank of iPads

MIDDLE SCHOOL TECH ENCORE PROGRAM

Course Title: Middle School Tech Encore Program

6th	7th	8th
Digital Tools	Design & Technology	Inventions & Innovations
Essential Questions:	**Essential Questions:**	**Essential Questions:**
How can you use a tool such as Google drive for a variety of purposes, such as the creation of gathering, processing and presenting data? Why is it important to practice proper etiquette online and be aware of your digital footprint?	How does a collaboration allow/enable team to achieve common goals? How are creativity and critical thinking skills essential to the 21st Century? Why is it important to practice proper etiquette online and be aware of your digital footprint?	What are the factors that play a role in the success or failure of the product when it comes to market? How does a collaboration allow/enable team to achieve common goals? How are creativity and critical thinking skills essential to the 21st Century? Why is it important to practice proper etiquette online and be aware of your digital footprint?
Enduring Understanding:	**Enduring Understanding:**	**Enduring Understanding:**
In today's digital world where each one of us leaves a digital footprint it is imperative to know and be careful about cyber etiquette and safety. Standard: 8.1.8.A.5	The design process is cyclical and all products are a work in progress. Creative and critical thinking skills are necessary to succeed in the 21st Century.	The design process is cyclical and all products are a work in progress. Creative and critical thinking skills are necessary to succeed in the 21st Century. It is important to communicate the validity of the product using slogan, media and persuasion. Using media to persuade an audience. Standard: 8.2.8.E.1

6th	7th	8th
Digital Tools	Design & Technology	Inventions & Innovations
	Standard: 8.2.8.A.1 Standard: 8.2.8.B.1 Standard: 8.2.8.B.2 Standard: 8.2.8.B.3 Standard: 8.2.8.E.1 Standard: 9.1.8.A.1 Standard: 9.1.8.C.1 Standard: 9.1.8.C.2 Standard: 9.1.8.D.1 Standard: 9.1.8.F.1	Standard: 8.2.8.F.1 Standard: 8.2.8.G.1 Standard: 9.1.8.C.1 Standard: 9.1.8.C.2 Standard: 9.1.8.C.3 Standard: 9.1.8.D.1 Standard: 9.1.8.F.1
Knowledge & Skills:	**Knowledge & Skills:**	**Knowledge & Skills:**
Knowledge: *Students will know…* ● There are a variety of technologies and tools available to create, access, and share information. ● Critical thinking, collaboration and problem solving skills are necessary to function both as a global citizen and worker in the 21st-century. ● Digital media can be used for both local and global communication; there are ethical and unethical uses of these 21st-century tools. ● Teamwork and leadership enable groups to achieve commons goals with greater efficiency. ● Correct keyboarding technique will increase efficiency not only as a student but in future careers. ● Knowledge of computer applications is an important life skill needed in today's technological world.	***Knowledge***: *Students will know...* ● Definition and the nature of technology ● The steps of the Design Process and how to apply them ● Basic information about technological topics (structures, forces, energy systems, circuits, energy transformations, simple machines, flight, good design, etc.) ***Skills***: *Students will be able to…* ● Identify, analyze, and apply knowledge to different areas of technology ● Apply the steps of the Design Process to a technological problem	***Knowledge***: *Students will know* ● There are a variety of technologies and tools available to create, access, and share information. ● Online learning communities are a viable source for knowledge sharing. ● There are safety, societal, ethical, and legal concerns regarding the use of technology. ● Critical thinking, collaboration and problem solving skills are necessary to function both as a global citizen and worker in the 21st Century. ● Teamwork and leadership enable groups to achieve commons goals with greater efficiency. ● Understanding others

6th	7th	8th
Digital Tools	Design & Technology	Inventions & Innovations
• There are safety, societal, ethical, and legal concerns regarding the use of technology. • The 21st Century workplace will demand greater individual collaboration, productivity and collaboration from its workers. *Skills: Students will be able to…* • Use basic keyboard commands; create, organize and manipulate shortcuts • Display correct keyboarding techniques • Navigate the operating system • Make simple formatting changes • Touch type • Use appropriate technology vocabulary • Display appropriate behavior related to cyber ethics; • Share knowledge and participate ethically and communicate and collaborate with others • Productively in group settings • Work with multiple applications • Create professional documents with the use of graphics • Select and utilize information from a variety of digital resources • Adhere to Fair Use and Multimedia Copyright Guidelines and cite sources of copyrighted materials in all work • Demonstrate leadership skills when participating in classroom settings and online	• Evaluate and satisfy a Design Challenge • Develop a critical and creative approach to solving a Design Challenge • Work safely and with appropriate tools • Express ideas clearly in written, oral, and physical demonstrations • Use appropriate vocabulary in relation to technological problems	perspectives will facilitate communication with people from different backgrounds. • Digital media can be used for both local and global communication; there are ethical and unethical uses of these 21st Century tools. • The 21st Century workplace will demand greater individual collaboration, productivity and collaboration from its workers. • A variety of skills and strategies that promote personal and financial responsibility. *Skills: Students will be able to…* • Select and utilize information from a variety of digital resources • Select appropriate digital tools to assemble, evaluate, and utilize information • Appropriately use a variety of digital technology and communication tools • Use information and resources to accomplish real-world tasks • Use multiple resources to create and manage documents • Participate in online

6th	7th	8th
Digital Tools	Design & Technology	Inventions & Innovations
learning communities ● Manipulate a spreadsheet ● Utilize hyperlink feature		learning environments ● Adhere to Fair Use and Multimedia Copyright Guidelines and cite sources of copyrighted materials in all work ● Practice safe, legal and ethical behaviors around technology and the internet ● Share knowledge and participate ethically and productively in group settings ● Communicate and collaborate with others ● Evaluate the impact of digital media ● Demonstrate leadership skills when participating in classroom settings and online learning communities
Cybersafety:	**Cybersafety:**	**Cybersafety:**
● **Internet/Cybersafety:** Common Sense Media - embed into creating a professional document. ● **Cyberbullying:** Brainpop & Common Sense Standard: 8.1.8.D.1 Standard: 9.1.8.C.1	● **Information Literacy:** Common Sense Media - embed into various projects - e.g. research structures Standard: 8.1.8.D.1 Standard: 9.1.8.C.1	● **Relationships and Communications, Creative Credit and Copyright, Digital Footprint and Reputation:** Common Sense Media - embed into Invention marketing Standard: 8.1.8.D.1 Standard: 9.1.8.C.1
Keyboarding:	**History/Definition of Technology:**	**Problems**

6th	7th	8th
Digital Tools	Design & Technology	Inventions & Innovations
Keyboarding: At least 10 minutes of typing (do now), every period. **Suggestions for Resources**: Book (Typing Time), Typing Club, Nitro-Type, Free Typing Games Standard: 8.1.8.A.1	Definition of Technology (2 days) Standard: 8.2.8.A.1	- Brainstorm Problems: (ex: overuse of water, hallway traffic, - Watch videos Standard: 9.1.8.A.1 Standard: 9.1.8.A.2 Standard: 9.1.8.C.1 Standard: 9.1.8.C.2 Standard: 9.1.8.C.3 Standard: 9.1.8.D.1
Word Processing:	**Design Process:**	**Research: Invention, Drawing & Feedback**
Google Documents: General typing, formatting and adding visual & citing. Standard: 8.1.8.E.4	**Designing**: Definition of the design process/cycle (research, design, build, test, research, redesign) **Suggestions for Resources:** PBS Kids Design Squad, Museum of Science, thetech.org, Standard: 8.2.8.B.1 Standard: 8.2.8.B.2 Standard: 8.2.8.B.3	- Definition of invention and innovation - Create a product on Google Drawing - Present sketch mock up to the class and get feedback about it. Then make changes based on that feedback. Standard: 9.1.8.B.1 Standard: 9.1.8.B.2 Standard: 9.1.8.C.1
Slide Show Presentation:	**Structural Design Challenges:**	**3D Prototype - Build, Test, Redesign**
Google Presentations: Insert media (transition, animations,	**Definition of Structures** -	Students make a 3D version of their product

6th	7th	8th
Digital Tools	Design & Technology	Inventions & Innovations
animated gifs, etc.) Standard: 8.1.8.A.3	Strength and aesthetics ● **Structural Design Challenges** - (ex: spaghetti challenge, newspaper tower, bridges, etc.) ● **Suggestions for Resources:** PBS Kids Design Squad, Museum of Science, thetech.org, Standard: 8.2.8.B.1 Standard: 8.2.8.B.2 Standard: 8.2.8.B.3 Standard: 8.2.8.E.1 Standard: 9.1.8.A.1 Standard: 9.1.8.C.1 Standard: 9.1.8.C.2 Standard: 9.1.8.D.1 Standard: 9.1.8.F.1	Standard: 9.1.8.C.1
Spreadsheets:	**Recycle Design Challenge:**	**Marketing**:
● **Google Spreadsheets:** Basic insert, format, formula, sort (ex: averaging grades, table of contents, summation of do nows, etc.)	● Use recyclable materials to create something that moves. ● **Suggestions for Resources:** PBS Kids Design Squad, Museum of Science, thetech.org,	● Finance lesson geared towards their product or business or advertising campaign. ● Then each student would need to write a brief (20-30 second commercial) for his or her product. ● Then they'd do a simple advertising exercise, like using Google Draw to create a poster/logo for their product. ● Use Google Presentation or WeVideo (or Scratch?)

6th	7th	8th
Digital Tools	Design & Technology	Inventions & Innovations
Standard: 8.1.8.A.4	Standard: 8.2.8.B.1 Standard: 8.2.8.B.2 Standard: 8.2.8.B.3 Standard: 8.2.8.E.1 Standard: 8.2.8.F.1 Standard: 8.2.8.F.2 Standard: 9.1.8.A.1 Standard: 9.1.8.C.1 Standard: 9.1.8.C.2 Standard: 9.1.8.D.1 Standard: 9.1.8.F.1	to create some type of commercial/infomercial for their product. Standard: 9.1.8.C.1
Extra	**Real-World Design Challenge:**	**Patents:**
● Collaborate with distant learners - Monster Exchange	● Teacher choice of real-world problem (ex: roller-coaster design, boat that doesn't sink, puff-mobile, packaging/egg drop, packaging/mail a pringle-interoffice) ● **Suggestions for Resources:** PBS Kids Design Squad, Museum of Science, thetech.org, Standard: 8.2.8.B.1 Standard: 8.2.8.B.2 Standard: 8.2.8.B.3 Standard: 8.2.8.E.1 Standard: 9.1.8.A.1 Standard: 9.1.8.C.1 Standard: 9.1.8.C.2 Standard: 9.1.8.D.1 Standard: 9.1.8.F.1	● Fill out mock patent application.

TECHNOLOGY EDUCATION: HIGH SCHOOL PROGRAM

High School Program Delivery
The High School's Technology Education Department delivers a comprehensive program, which begins in grade nine and continues through grade twelve.

Students in ninth grade must select from a menu of 21st Century courses into which identified and agreed upon NJCCCS for 21st Century Life and Careers and NJCCCS for Technology Education have been integrated. Students must also take Financial Literacy in their Junior Year into which additional standards are systematically integrated.

Beyond that, the Tech Educators and Library-Media Specialist support staff with tech-infused, content specific projects.   In addition, the Tech Department offers elective courses.

Enduring Understandings
> Digital tools provide enhanced opportunities to design innovative solutions, and express ideas creatively.
> Technology is constantly changing and requires continuous learning of new skills.
> Selection of technology should be based on personal and /or career needs assessment.
> A tool is only as good as the person using it.

Essential Questions
> How can digital tools be used for creating original and innovative works, ideas, and solutions?
> In a world of constant change, what skills should we learn?
> How do I choose which technological tools to use and when it is appropriate to use them?
> How can I transfer what I know to new technological situations/experiences?

Benchmark Assessments
> 12th Grade Research Task Rubric
> 21st Century and Tech Education Courses: Pre and Post Tests
> Financial Literacy- Pre and Post Tests

Technology Models
> Core and Special Subject Teacher: teacher workstation, mounted projector
> Computer Labs
> Research: COWs and Library Computer Bank
> Content Specific Technology such as Math SmartBoards

High School Programs

Program	Description	Digital Tools	Curriculum
9th Grade 21st Century Elective- State's 5-credit mandate for 21st Century Life and Careers	Our students are inheriting a dynamic world. It's a global society facing complex political, economic, technological, and environmental challenges. It's a service economy driven by information, knowledge, and innovation. It's a world of diverse communities and workplaces that rely on cross-cultural collaborative relationships and virtual social networks. It's an intensely competitive and constantly changing worldwide marketplace. The 21st Century courses are designed to prepare students for life, careers and learning in the post-secondary world. They will provide pathways to the career clusters and will open students' minds to vocations as well as avocations.	Computers. ChromeBooks and laptops in our school and library to search catalog databases, websites.	Curriculum found in the 21st Century Life and Career Education
9th Grade Naviance- Counselors	Assist students exploring and making informed educational and career choices including opportunities to change focus. Acquaint pupils with the relationship between achieving academic standards and the attainment of career goals. Participate in the development and implementation of career education to be infused in the general education curriculum.	Naviance college, career and post secondary planning system	Information regarding Naviance is found in the School Counseling Program Guide.
11th Grade Financial Literacy Course	This course is designed to inform students how personal finance directly correlates to their future success. Students will be exposed to the following topics: income and careers; money management; credit and debt management; planning, saving, and investing; becoming a critical consumer; and risk management and insurance. Students will learn how to	Personal computers and Chromebooks with Internet access, a web browser, and word processing, spreadsheet, and presentation software (for	Curriculum found in Financial Literacy Document.

Program	Description	Digital Tools	Curriculum
	set and prioritize financial goals, develop spending plans, obtain financial security, distinguish between wealth and income, and calculate the time value of money. This course will empower students to make informed financial decisions and recognize outcomes that promote financial independence.	student and teacher use) Presentation resources (software and web-based) Black & white printer Color printer SmartBoard LCD Projector DVD Player (or capabilities to play from computer workstation connected to LCD projector) Calculators Finance and career-related videos/DVDs	
12th Grade Health Education Research Task	Following a review (survey) of health topics studied K-11 and a scan of national and global health issues, students select one health topic, research the opposing viewpoints on the topic, and then take a stance. (Example: payment for organ donation to increase availability of viable organs and to possibly extend life). They present their findings in a persuasive essay with a correlating visual. Health teachers and LMS jointly score project using rubrics. Done independently with teacher and LMS partnership	Internet database research, presentation software as needed	Curriculum found in the Research Task Curriculum and the Library Media Curriculum Guide.
Electives	The Technology Education Department delivers a comprehensive elective program. The department offers courses for ninth and tenth graders.		Curriculum for Technology Education Electives is included in this document.

High School: Tech-Infused Tasks

Students are required to take core subjects (English, Math, Social Studies, Science) but can select other elective courses that might be technology- focused. With the Intent and Spirit of the New Jersey Technology Standards in mind, the goal of our program is to integrate technology in meaningful and appropriate ways to make the transition to post secondary education and the workplace.

From the NJCCCS Intent and Spirit of the New Jersey Technology Standards: "All students acquire content area knowledge and skills in: Visual and Performing Arts, Comprehensive Health and Physical Education, Language Arts Literacy, Mathematics, Science, Social Studies, World Languages, Technological Literacy, Technology Education, Engineering and Design and 21st Century Life and Careers supported by ongoing, transparent and systematic integration of technology from preschool to grade 12 in preparation for post secondary education and the workplace."

Answering this charge, South Brunswick High School teachers in all curriculum areas use a wide variety of technologies to enhance teaching and learning.

The table that follows gives **illustrative examples**:

Curriculum Area	Sample Tasks	Sample Digital Tools
Art	**Videoconference with Graphic Designer:** Art students engage in a 1-hour videoconference with a working graphic designer in a nearby state. Students prepare for the interview and while in the speaker's chair, ask the guest prepared questions about college preparation, career choice and the work environment.	Word processing, built-in camera, built-in microphone, Skype videoconferencing software, Chromebooks
Business	**Excel Spreadsheet Data Entry and Charting** Students collect, organize and manipulate data in spreadsheet templates. This information is analyzed to support presentations.	Excel software, Chromebooks
Business	**Video Creations** Students create videos to communicate ideas and showcase their knowledge.	Word processing, Windows Movie Maker, Audacity, iMovie
Business	**Publisher Desktop Publishing** Students plan, do layout and execute various documents including brochures, business cards, flyers, tabletop ads, menus.	Word processing, Publisher, Chromebooks
English	**Podcasting** Students record poetry and experience firsthand the power of the written word.	Audacity, GarageBand, Chromebooks
English	**Google Docs for writing** In a paperless English class students use Google Docs to share their writing with peers and the teacher. They do peer editing online. The teacher can make comments online. Student writing is archived.	Word processing, Google Docs, Chromebooks
Journalism	**iPads for journalism work** Students can choose iPads or laptops to access Google Docs where they write and edit their articles. The	Word processing, photo editing software, Google Docs, iPad, laptop,

Curriculum Area	Sample Tasks	Sample Digital Tools
	editors publish to the VikingVibe Online student newspaper: http://blogs.sbschools.org/vikingvibe/	Chromebooks
Family and Consumer Science	**Early Childhood Program** Kids, Kids, Kids high school student instructors use presentation tools such as Prezi and PowerPoint for showcasing photos of preschool activities and projects. They show these to parents to celebrate and chronicle the learning that takes place during the school day.	Prezi, PowerPoint, digital camera, photo editing software, Chromebooks
Family and Consumer Science	**Google Docs** The teacher publishes a collection of recipes for student access outside of class time. This allows students to refer to the recipes for school and personal use.	Google Docs, Chromebooks
Library	**Gr 9 Library Orientation** Every Grade 9 student participates in library orientation and does a database quest exit exercise.	Library wiki, Online subscription databases, Chromebooks
Math	**SMART Lessons** Math teachers use SMART Notebook software to create interactive daily lessons. Lessons are projected on the SMART Board.	SMART Notebook software, Chromebooks
Math- Computer Programming	**Coding**	Computer programming languages as appropriate
Music and Theater	**Movie Trailers for Screenwriting class** Students create a movie trailer beginning with a plan designed on a storyboard. They take video clips using Flip cams then use Mac laptops and iMovie '11 to create and edit their movie trailers.	Word processing, iMovie '11
PE/Health	**Moodle Health Course** Two sections of senior health take their course using the online environment Moodle. In this paperless environment they complete their assignments online, engage in discussion online and submit their final project online.	Word processing, Moodle software, Chromebooks
PE/Health	**Senior Health Project** Students research a current health issue and write a position paper on the topic using online databases. They create a visual presentation to share their findings.	Word processing, online databases, YouTube videos, Chromebooks
Science	**Honors Biology Molecular Workbench** Online site where students work on lessons chosen by the teacher. They manipulate variables and take snap shots of their ideas and their work, then electronically submit their answers to the teacher. The teacher views their work for evaluation and assessment, both formative and summative.	Word processing, simulations, photo capturing, Chromebooks
Social Studies	**Military History Book Reviews** Students use a wiki to submit book reviews of military	Word processing, wiki, Google Forms,

Curriculum Area	Sample Tasks	Sample Digital Tools
	history books. Using the read-only view of the wiki they can read each other's book reviews. The wiki allows students to reach a broad audience to share the book reviews and is more effective than handing in a printed book review to the teacher.	Chromebooks
Special Education	**Board Maker for non-verbal communication** Students use communication boards on iPads created by teachers using Board Maker software.	Board Maker software, Chromebooks
Technology	**Final Cut Pro for television editing** Students use Final Cut Pro to edit video footage for broadcasting on Viking Television Network.	Final Cut Pro software, Chromebooks
World Language	**iPods for digital recording** Students use iPods to increase listening and speaking competency. They record their voices, listen and critique. AP Spanish and French students use iPods to record the oral exam section of the exam.	iPods, iPod microphone and recorder, built-in software, Chromebooks
World Language	**Google Voice** World language students call their teacher's Google Voice account to speak in the target language. They might leave a message, answer a verbal prompt or give a response to a question.	Google Voice, Chromebooks
Interdisciplinary	**Google Docs** Teachers use Google Docs as a course framework for a paperless classroom environment. From the course syllabus to daily assignments and handouts this tool is a 21st Century way to help students be organized and in control of their learning. Google Docs offer collaborative features that promote group work and peer editing. With Google Drive, students have a "digital locker" where they can organize and catalog their work.	Google Docs, Chromebooks
Web Presence	**Google Sites, wikis, sbschools.org web site, Twitter** Teachers use a variety of tools to communicate and connect with students. These tools extend the reach of the classroom beyond the school day. Google Sites, District–hosted class web sites and wikis display important class information, downloadable documents, due dates, and links to resources. Blogs offer opportunities for an exchange of ideas and provide a valuable audience for student writing. Teachers use Twitter to help their students make the connection between the curriculum and real-world learning.	Google Docs, Google Sites, Google Calendar, wiki software, Word Press district-hosted blogs, Twitter, Chromebooks

Curriculum
The curriculum for the high school can be found in multiple locations as indicated in the charts above.

21st Century Courses: Curriculum is found in the 21st Century Life and Career Education Curriculum Guide.

Financial Literacy Course: Curriculum is found in the Personal Financial Management Curriculum Guide.

Research Tasks: The curriculum, units of study and lesson plans are found in the Research Curriculum Document, Library Media Curriculum Document, and the Health Education Curriculum Guide.

Tech Infused Projects: These content projects are based on NJCCCS and integrate Technological Literacy, 21st Century Life and Careers, and core content standards.

Tech Electives: The curriculum and pacing charts for these courses follow.

TECHNOLOGY EDUCATION: ELECTIVE CURRICULUM

Architecture: Design Fundamentals

Mission: Architecture: Design Fundamentals will prepare students to be logical thinkers by way of following a design loop process emphasizing knowledgeable reason and problem solving proficiency. As well, Architecture: Design Fundamentals will prepare students to be effective communicators, successful in a multi-tasking society, effective time managers, and technologically organized. This shall be accomplished by promoting reasonable challenge, creativity, social connectivity and professional and emotional growth.

Course Description: Architecture: Design Fundamentals will introduce students to the fundamentals of the design process and methods of problem solving as they relate to architecture. Emphasis will be placed on residential design.

Big Idea: Form follows function.

Enduring Understandings
- Architecture is an evolving design process.
- Everything around us influences architectural design.
- The creative problem solving approach for design will result in more than one "right" answer.
- CADD (Computer Aided Drafting and Design) is a tool used as a means to achieving a result, not the end of achieving it.

Essential Questions:
- How do architects design for today's society?
- How is architecture a continually evolving design process?
- Is architecture art or technology?
- Why use a design loop?
- What are the implications of technology replacing [manual] skill/design?
- What identifies a good design as it relates to residential architecture? And who says that it is one? What is meant by 'good design?'

Students will know the following terminology…

Basic house designs: 1, 1 ½, 2, split
Architect's scale: size, scale
Traffic circulation
Basic areas: sleeping, living, service
Alphabet of lines: border line, object line, hidden line, center line, dimension and extension lines, construction line, guideline, section line, cutting-plane line
ADA-American Disabilities Act
GFCI-Ground Fault Circuit Interrupt
FHA-Federal Housing Administration
Floor plan, elevation drawing, section view
Entryway: main, service, special purpose
PLUS: specific architectural elements/terms

Knowledge and Skills (what students will know and do):

KNOWLEDGE: After completing this course students will know:
- Structures and elements of residential architecture.
- How to apply American Institute of Architects (AIA) standards.
- What encompasses the three basic areas of a residential structure?
- A Computer Aided Drafting and Design (CADD) program.
- The design loop and problem solving techniques.

SKILLS: After completing this course the students will be able to:
- Identify, analyze and apply knowledge to various structures and elements of residential architecture.
- Use architecture as a vehicle for thought, creativity, reflection, learning, and self-expression.
- Express ideas with clarity and coherence in both oral and written communication.
- Develop a critical and creative approach to studying residential architecture.
- Explore many facets of architecture through the use of media and information technology.
- Consider the role of architecture both culturally and historically.
- Apply the design loop steps of the problem solving procedure.
- Use elements and principles of design in their work.
- Work independently to research, brainstorm, and develop solutions.
- Work cooperatively to complete a team design solution.
- Reflect on the design process in various ways and at various stages.
- Design a house using proper American Institute of Architects principles.
- Acquire and develop an awareness of introductory vocabulary used in the field of architecture. Use new vocabulary in relevant contexts.
- Compare models and connect plans to show similarities and differences across genres.
- Design three basic areas of a house
- Apply CADD when solving a design brief.

Standards:

STANDARD 1.1 (Aesthetics) All students will use aesthetic knowledge in the creation of and in response to [dance, music, theater] and visual art.

STANDARD 1.2 (Creation and Performance) All students will utilize those skills, media, methods, and technologies appropriate to teach art form in the creation, performance, and presentation of dance, music, theater, and visual art.

STANDARD 1.3 (Elements and Principles) All students will demonstrate an understanding of the elements and principles of [dance, music, theater] and visual art.

STANDARD 1.4 (Critique) All students will develop, apply and reflect upon knowledge of the process of critique.

STANDARD 3.1 (Reading) All students will understand and apply the knowledge of sounds, letters, and words in written English to become independent and fluent readers and will read a variety of materials and texts with fluency and comprehension.

STANDARD 3.2 (Writing) All students will write in clear, concise, organized language that varies in content and form for different audiences and purposes.

STANDARD 3.3 (Speaking) All students will speak in clear, concise, organized language that varies in content and form for different audiences and purposes.

STANDARD 3.4 (Listening) All students will listen actively to information from a variety of sources in a variety of situations.

STANDARD 3.5 (Viewing and Media Literacy) All students will access, view, evaluate, and respond to print, non-print, and electronic texts and resources.

STANDARD 4.2 (Geometry and Measurement) All students will develop spatial sense and the ability to use geometric properties, relationships, and measurement to model, describe, and analyze phenomena.

STANDARD 4.4 (Data Analysis, Probability, and Discrete Mathematics) All students will develop an understanding of the concepts and techniques of data analysis, probability, and discrete mathematics, and will use them to model situations, solve problems, and analyze and draw appropriate inferences from data.

STANDARD 4.5 (Mathematical Processes) All students will use mathematical processes of problem solving, communication, connections, reasoning, representations, and technology to solve problems and communicate mathematical ideas.

STANDARD 8.1 (Computer and information literacy). All students will use computer applications to gather and organize information and to solve problems.

STANDARD 8.2 (Technology Education) All students will develop an understanding of the nature and impact of technology, engineering, technological design, and the designed world as they relate to the individual, society, and the environment.

STANDARD 9.1 (Career and Technical Education) All students will develop career awareness and planning, employability skills, and foundational knowledge necessary for success in the workplace.

STANDARD 9.2 (Consumer, Family, and Life Skills) All students will demonstrate critical life skills in order to be functional members of society.

Learning Activities:
> Informal Teaching (Such as through discussions, talks, presentations, advice and guidance).
> Teaching by example (Demonstrations)
> Acting as a facilitator
> Formal Teaching (Lecture, information dissemination)
> Fostering of students collaboration
> Scheduled course work (class activities, tests, projects)

These strategies are not intended to be all-inclusive, but should provide sufficient understanding of the teaching process.

Refer to scope and sequence chart.

Assessments:

Cooperative learning	Presentations
Discussion groups	Monthly portfolio
Peer critiques	Show and tell
Self reflections	Posters
Pre and posttests	Modeling
Development and usage of lettering style	Text assignments
	Practice assignments
ADA's (Architectural Design Activities)	

These procedures are not intended to be all-inclusive, but should provide sufficient understanding of the grading process.

Connections:

Cross Curricular:
English - students develop an individual lettering style; they will read, write, discuss, and evaluate topics as they relate to architecture; through a year-long portfolio students will access, view, and incorporate media literacy.

Math - Applications of geometry will be applied in order to understand size versus scale as well as spatial relationships; students will develop skills to visualize; math processes will be incorporated into the problem solving equation.

Art- Students will apply basic elements and principles of design; they will design and build using mixed media and materials; there will be peer-to-peer as well as instructor-to-peer critiques.

Family & Consumer Sciences – students will incorporate safe workplace practices into the classroom and develop an understanding of success at a place of work; student to student connections while demonstrating teamwork involving project planning and time management.

Technology:
Students will define technology as it relates to problem solving and design.

Character Education (Core Values):
Personal growth; students will care about what they do and express pride in their work and accomplishments; they will work hard without giving up in a careful, consistent manner; cooperate with one another & recognize the uniqueness and value of each individual within our diverse society.

Career:
Exploration of what is required of an architect and how the skills apply in related fields.

Resources:

Text Materials/Resources
Architecture Residential Drawing & Design – Kitchlighter, Goodheart-Willcox Company
Chief Architect 10.0 Ref. Manual – Advanced Relational Technology, Inc.
Architectural Record - The magazine of the AIA, Monthly subscription
Architectural Digest - The international magazine of design, Monthly subscription
New York Spaces - The home design magazine of metropolitan New York, Monthly subscription
Better Homes and Gardens - Monthly subscription
*Plus an extensive in-class library of architectural books.
Internet Sites/Specific Software:
Chief Architect 10.08a Advanced Relational Technology, Inc.
Microsoft Office Professional Edition, Microsoft Corporation
Building homes of our own 2.0 National Association of Home Builders
Adobe Reader
Window Media Player
Internet Explorer*
*Internet sites vary as they apply to the architectural content, styles, and elements. Some typical sites will include: HGTV.com, Goggle, Chiefarchitect.com, Finehomebuilding.com

Technologies: Chief Architect Software by ART

SCOPE AND SEQUENCE (SUGGESTED PACING CHART)

YEAR LONG TOPICS:
Do-now activities
Elements and principles of floor plan design
Architectural Portfolio
Computer Aided Drafting and Design

FIRST QUARTER

Topic	Description
Introduction	Rules, tools, supplies, all housekeeping, classroom pride, student profile forms
Basic House Designs	One story, two story, one and one-half story, split level Traffic circulation and flow
Portfolio	Introduction to activity Year long assignment Evaluation Designing a portfolio cover September and October reviews
Lettering	Architectural lettering Tools Creating a border and title box Designing a lettering style
Fundamentals	Measuring using an architect's scale Scale versus size Careers The Alphabet of Lines Symbols & Dimensioning Basic areas of the house

SECOND QUARTER

Topic	Description
Sleeping Area	Bedroom planning Types of closets and minimum requirements Bathroom planning Designing a dream bathroom Critique Computer Aided Drafting & Design (CADD) – Chief Architect Designing a dream house

Living Area	Living Room Planning
	Special Purpose Room Planning
	Family Recreation Room Planning
	Designing a dream recreation room
	Critique
	Computer Aided Drafting & Design (CADD) – Chief Architect
	Interior Elevation Drawing
Portfolio	November and December reviews

THIRD QUARTER

Topic	Description
Living Area (Cont.)	Designing a dream family recreation room
	Dining Room Planning
	Foyer Planning
	Basic stair planning
	Designing a dream foyer
	Critique
	Patio/Porch/ Deck Planning
	Computer Aided Drafting & Design (CADD) – Chief Architect
Service Area	Kitchen Planning
	Kitchen elevation drawing
	Designing a dream kitchen
	Critique
Portfolio	January, February, and March reviews

FOURTH QUARTER

Topic	Description
Service Area Can't.	Architectural Modeling
	Kitchen Modeling
	Garage Planning
	Clothes Care Center Planning
	Designing a dream clothes care center
	Critique
TheFloor Plan	Floor plan symbols
	Floor plan dimensioning
	Procedures for drawing a floor plan
	Designing a dream house
	Critique
	Computer Aided Drafting & Design (CADD) – Chief Architect
Portfolio	April and May reviews

DEPARTMENT AGREEMENTS ON MINIMUM COURSE PROFICIENCIES:

In order to receive credit for this course, students must exhibit proficiency in the topics described below.
GRADING / ASSESSMENTS
● 60% Project Performance encompassing the quality and completeness of assigned architectural design activities as outlined by individual assessment scales. ● 25% Tests and Quizzes including unit pre- and post-tests, text assignments, and portfolio submissions. ● 15% Participation as outlined by worksheet completions, portfolio debriefings, extra-credit assignments, and classroom participation.
MINIMUM PROFICIENCY
● Attendance in accordance to SBHS agenda guidelines. ● A minimum grade of "D" proficiency.

Architecture: Design Fundamentals Curriculum Map

Department: Technology Ed. **Course Name:** Architectural Drawing I **Grade Level**: 9-12	**Quarter 1**	**Quarter 2**	**Quarter 3**	**Quarter 4**
Topics Addressed in Curriculum	Basic House Designs & Traffic Circulation. Portfolio Architectural Lettering Architectural Fundamentals: Architect's scale Alphabet of Lines Symbols and Dimensioning Basic areas of the house	Computer Aided Drafting and Design Sleeping Area: Bedroom Bathroom Living Area: Living Room Recreation Room Special Purpose Room	Computer Aided Drafting and Design Living Area: Dining Room Foyer Patios, Porches, & Decks Service Area: Kitchen Elevation Drawing	Computer Aided Drafting and Design Architectural Modeling Service Area: Clothes Care Center Garage Designing a Dream House Floor Plan
Standards	1.2, 3.1, 3.2, 3.3, 3.5, 4.2, 4.5, 8.1, 8.2, 9.1, 9.2	1.2, 1.4, 3.1, 3.2, 3.3,3.4, 4.4, 4.5, 8.1, 8.2, 9.2	1.1, 1.2, 1.3, 1.4, 3.1,3.2, 3.3 3.4, 4.5, 8.1, 8.2, 9.2	1.3, 3.1, 3.2, 3.3, 4.5, 8.2, 9.2

Essential Questions	How do architects design for today's society? Is architecture art or technology? What identifies a good design as it relates to residential architecture? And who says that it is one? What is meant by 'good design?'	How is architecture a continually evolving design process? Is architecture art or technology? Why use a design loop? What are the implications of technology replacing [manual] skill/design? What identifies a good design as it relates to residential architecture? And who says that it is one? What is meant by 'good design?'	How is architecture a continually evolving design process? Is architecture art or technology? Why use a design loop? What are the implications of technology replacing [manual] skill/design? What identifies a good design as it relates to residential architecture? And who says that it is one? What is meant by 'good design?'	How do architects design for today's society? How is architecture a continually evolving design process? Is architecture art or technology? Why use a design loop? What are the implications of technology replacing [manual] skill/design? What identifies a good design as it relates to residential architecture? And who says that it is one? What is meant by 'good design?'

Architecture: Design, Form, and Function

Mission: Architecture: Design, Form, and Function will prepare students to be logical thinkers by way of following a design loop process emphasizing knowledgeable reason and problem solving proficiency. As well, Architecture: Design, Form, and Function will prepare students to be effective communicators, successful in a multi-tasking society, effective time managers, and technologically organized. This shall be accomplished by promoting reasonable challenge, creativity, social connectivity and professional and emotional growth.

Course Description: Architecture: Design, Form, and Function emphasizes the essentials of the design process and methods of problem solving and tectonics as they relate to architecture. The history of architecture will be examined and famous buildings will be referenced. High school post-graduate options will be explored.

Big Idea: Form follows function.

Enduring Understandings:
> Architecture is an evolving design process.
- An architectural style is an overall plan with visual characteristics based on ideas or fashions popular during given periods.
- The creative problem solving approach for design will result in more than one "right" answer.
- CADD (Computer Aided Drafting and Design) is a tool used as a means to achieving a result, not the end of achieving it.
- Patience, desire for excellence, and attention to detail are keys to success.

Essential Questions:
- How does understanding past styles affect present, hence future styles?
- How is architecture a continually evolving design process?
- Is architecture art or technology?
- Why use a design loop?
- How does society and culture influence the design and development of buildings and structures?
- Could it be said that the use of technology could replace [manual] design?
- What signifies a good design?

Students will know the following terminology…
- accreditation
- pediment, frieze
- Doric, Ionic, Corinthian
- Keystone
- Exterior elevation
- section view
- grade line
- Post & lintel, arch, vault, dome
- Bearing wall versus skeleton wall construction
- Small scale model, structural, presentation, topographical, and special models
- PLUS: specific architectural elements/terms

Knowledge and Skills (what students will know and do):

KNOWLEDGE: After completing this course students will know:
- Types of architectural structures.
- How to apply American Institute of Architects (AIA) standards.
- A Computer Aided Drafting and Design (CADD) program.
- The design loop and problem solving techniques.
- How to draw two dimensionally.
- Current events as they relate to architecture.
- Various well-known places of worship, centers of power, living and leisure, and castles, palaces, and forts.
- How to research information about a college or university for possible post-graduate or career opportunities in architecture.

SKILLS: After completing this course the students will be able to:
- Recognize, identify, and apply the basic elements and principles of design in architecture from conceptualization through planning and evaluation of structures.
- Use architecture as a vehicle for thought, creativity, reflection, learning, and self-expression.
- Express ideas with clarity and coherence in both oral and written communication.
- Distinguish between accredited and non-accredited schools of architecture.
- Explain the difference between several types of architectural degrees.
- Develop a critical and creative approach to studying architecture.
- Explore many facets of architecture through the use of media and information technology.
- Consider the role of architecture both culturally and historically.
- Apply the design loop steps of the problem solving procedure.
- Work independently to research, brainstorm, and develop solutions.
- Work cooperatively to complete a team design solution.
- Reflect on the design process in various ways and at various stages.
- Compare models and connect plans to show similarities and differences across genres.
- Apply CADD when solving a design brief.
- Identify, draw, and dimension plans for residential buildings.
- Manually generate exterior elevation drawings.
- Produce architectural drawings utilizing appropriate Computer Aided Drafting and Design software and/or traditional techniques.
- Explain the various types of architectural models.
- Identify various famous buildings/ styles for which they are noted.
- Explore current events as they relate to architecture.

Standards:
STANDARD 1.1 (Aesthetics) All students will use aesthetic knowledge in the creation of and in response to [dance, music, theater] and visual art.
STANDARD 1.2 (Creation and Performance) All students will utilize those skills, media, methods, and technologies appropriate to teach art form in the creation, performance, and presentation of dance, music, theater, and visual art.
STANDARD 1.3 (Elements and Principles) All students will demonstrate an understanding of the elements and principles of [dance, music, theater] and visual art.
STANDARD 1.4 (Critique) All students will develop, apply and reflect upon knowledge of the process of critique.

STANDARD 1.5 (History/Culture) All students will understand and analyze the role, development, and continuing influence of the arts in relation to world cultures, history, and society.

STANDARD 3.1 (Reading) All students will understand and apply the knowledge of sounds, letters, and words in written English to become independent and fluent readers and will read a variety of materials and texts with fluency and comprehension.

STANDARD 3.2 (Writing) All students will write in clear, concise, organized language that varies in content and form for different audiences and purposes.

STANDARD 3.3 (Speaking) All students will speak in clear, concise, organized language that varies in content and form for different audiences and purposes.

STANDARD 3. 4 (Listening) All students will listen actively to information from a variety of sources in a variety of situations.

STANDARD 3.5 (Viewing and Media Literacy) All students will access, view, evaluate, and respond to print, non-print, and electronic texts and resources.

STANDARD 4.3 (Patterns and Algebra) All students will represent and analyze relationships among variable quantities and solve problems involving patterns, functions, and algebraic concepts and processes.

STANDARD 4.5 (Mathematical Processes) All students will use mathematical processes of problem solving, communication, connections, reasoning, representations, and technology to solve problems and communicate mathematical ideas.

STANDARD 5.1 (Scientific Processes) All students will develop problem-solving, decision-making, and inquiry skills, reflected by formulating usable questions and hypotheses, planning experiments, conducting systematic observations, interpreting and analyzing data, drawing conclusions, and communicating results.

STANDARD 6.1 (Social Studies Skills) All students will utilize historical thinking, problem solving, and research skills to maximize their understanding of civics, history, geography, and economics.

STANDARD 8.1 (Computer and information literacy). All students will use computer applications to gather and organize information and to solve problems.

STANDARD 8.2 (Technology Education) All students will develop an understanding of the nature and impact of technology, engineering, technological design, and the designed world as they relate to the individual, society, and the environment.

STANDARD 9.1 (Career and Technical Education) All students will develop career awareness and planning, employability skills, and foundational knowledge necessary for success in the workplace.

STANDARD 9.2 (Consumer, Family, and Life Skills) All students will demonstrate critical life skills in order to be functional members of society.

Learning Activities:

Informal Teaching (Such as through discussions, talks, presentations, advice and guidance).
Teaching by example (Demonstrations)
Acting as a facilitator
Formal Teaching (Lecture, information dissemination)
Fostering of students collaboration
Scheduled course work (class activities, tests, projects)

These strategies are not intended to be all-inclusive, but should provide sufficient understanding of the teaching process.

Refer to scope and sequence chart.

Assessments:
- Cooperative learning
- Discussion groups
- Peer critiques
- Self reflections
- Pre- and post-tests
- Usage of personal lettering style
- ADA's (Architectural Design Activities)
- Presentations
- Monthly current events
- Show and tell
- Posters
- Modeling
- Text assignments
- Practice assignments

These procedures are not intended to be all-inclusive, but should provide sufficient understanding of the grading process.

Connections:

Cross Curricular:

English - students utilize an individual lettering style; they will read, write, discuss, and evaluate topics as they relate to architecture; through a year-long current events activity students will access, view, and incorporate media literacy.

Math - Applications of geometry will be applied in order to effectively and accurately build models; students will develop skills to visualize; math processes will be incorporated into the problem solving equation.

Art- Students will apply basic elements and principles of design; they will design and build using mixed media and materials; there will be peer-to-peer as well as instructor-to-peer critiques. Students will be creating portfolio pieces for college presentation.

Family & Consumer Sciences – students will incorporate safe workplace practices into the classroom and develop an understanding of success at a place of work; student to student connections while demonstrating teamwork involving project planning and time management.

Technology:

Students will define technology as it relates to problem solving and design.

Character Education (Core Values):

Personal growth; students will care about what they do and express pride in their work and accomplishments; they will work hard without giving up in a careful, consistent manner; cooperate with one another and recognize the uniqueness and value of each individual within our diverse society.

Career:

Exploration of what is required of an architect and how the skills apply in related fields. Students will be conducting college searches.

Resources:

Printed materials, textbooks, magazines, and journals:
Architecture Residential Drawing & Design – Kitchlighter, Goodheart-Willcox Company
Chief Architect 10.0 Ref. Manul – Advanced Relational Technology, Inc.
Architectural Record - The magazine of the AIA, Monthly subscription
Architectural Digest - The international magazine of design, Monthly subscription
New York Spaces - The home design magazine of metropolitan New York, Monthly subscription
Better Homes and Gardens - Monthly subscription

*Plus an extensive in-class library of architectural books.

<u>Internet Sites, specific software that will be used during the course:</u>
Chief Architect 10.08a Advanced Relational Technology, Inc.
Microsoft Office Professional Edition   Microsoft Corporation
Building homes of our own 2.0 National Association of Home Builders
Adobe Reader
Window Media Player
Internet Explorer*

*Internet sites vary as they apply to the architectural content, styles, and elements. Some typical sites will include: HGTV.com, Goggle, Chiefarchitect.com, Finehomebuilding.com

Technologies:
Chief Architect Software by ART

SCOPE AND SEQUENCE (SUGGESTED PACING CHART)

<u>YEAR LONG TOPICS</u>
"Do Now" activities
Elements and principles of design
Architectural Current Event Reporting
Computer Aided Drafting and Design

<u>FIRST QUARTER</u>

Topic	Description
Introduction	Rules, tools, supplies, all housekeeping, classroom pride, student profile forms
	Ice breaker using cooperative modeling
Review	Architectural lettering style
	Basic methods and techniques
	Designing a summer home
	Critique
Current Events	Introduction to activity
	Year-long assignment
	Evaluation
	September reviews – anything related to architecture
	October reviews- commercial or historical building

Architecture as a career	Types of architectural degrees and paths to obtain them Accreditation versus non-accreditation Portfolio requirements HS Post-graduate research
History and architectural styling	Post and lintel construction Columns- Doric, Ionic, Corinthian The Arch, the Gothic arch, the vault, and the dome Bearing wall construction and skeleton wall construction Architectural styles- European influence, Ancient World, Medieval, Early American influence, 20th Century influence, other influences

SECOND QUARTER

Topic	Description
Famous Buildings	Castles, Palaces, and Forts Living and Leisure Centers of Power Places of Worship Cooperative Modeling Activity
Current Events	November review- An architect December review- Construction materials or techniques

THIRD QUARTER

Topic	Description
Elevation Drawing	Exterior versus Interior Features Procedures for drawing Computer Aided Drafting and Design Presentation Drawing
Current Events	January review- Residential Design February review- A Renovation March review- Interior Design

FOURTH QUARTER

Topic	Description
Architectural Modeling	Safety procedures Types of models Materials Methods of construction Model of Dream House Landscape architecture
Current Events	April review- Landscape Architecture May review- Anything related to architecture

DEPARTMENT AGREEMENTS ON MINIMUM COURSE PROFICIENCIES:

In order to receive credit for this course, students must exhibit proficiency in the topics described below.

GRADING / ASSESSMENTS

- 70% Project Performance encompassing the quality and completeness of assigned architectural design activities as outlined by individual assessment scales.
- 15% Tests and Quizzes including unit pre- and post-tests, text assignments, and portfolio submissions.
- 15% Participation as outlined by worksheet completions, portfolio debriefings, extra-credit assignments, and classroom participation.

MINIMUM PROFICIENCY

- Attendance in accordance to SBHS agenda guidelines.
- A minimum grade of "D" proficiency.

Architecture: Design, Form, and Function Curriculum Map

Department: Technology Ed. Course Name: Architectural Drawing 2 Grade Level: 9-12	Quarter 1	Quarter 2	Quarter 3	Quarter 4
Topics Addressed in Curriculum	Basics methods and techniques Designing a summer home Career Exploration History of Architecture Architectural Styles Current Events	Famous Buildings Current Events	Elevation Drawing Computer Aided Drafting and Design Current Events	Computer Aided Drafting and Design Architectural Modeling Current Events
Standards	1.1, 1.2, 1.4, 1.5, 3.1, 3.2, 3.3, 3.5, 4.5, 5.1, 6.1, 8.1, 8.2, 9.1, 9.2,	1.4, 3.1, 3.2, 3.3, 4.3, 6.1,8.1, 8.2, 9.2	1.2, 1.4, 3.1,3.2, 3.3, 3.4, 6.1, 8.1, 8.2, 9.2	1.2, 3.1,3.2, 3.3, 6.1, 8.1, 8.2, 9.2
Essential Questions	How does understanding past styles affect present, hence future styles? Why use a design loop? What signifies a good design?	How does understanding past styles affect present, hence future styles? How is architecture a continually evolving design process? Why use a design loop? How does society and culture influence the design and development of buildings and structures?	How is architecture a continually evolving design process? Is architecture art or technology? Why use a design loop? Could it be said that the use of technology could replace (manual) design? What signifies a good design?	How is architecture a continually evolving design process? Is architecture art or technology? Why use a design loop? Could it be said that the use of technology could replace (manual) design? What signifies a good design?

Architecture: Design & Technology

Prerequisite: 73% or better in Architecture: Design, Form, & Function (H19004).

Formerly known as Architectural Drawing III, emphasis will be placed on the exploration of nontraditional structures, abstracts, and the creative process of design. The design loop and methods of architectural problem solving will be applied to produce imaginative design solutions, which respond to practical, theoretical, functional, and aesthetic requirements. Students will explore the practice of famous architects as they develop their own style. Expanding drafting and drawing techniques, CADD, and model making with a variety of materials will be refined as students expand their college portfolio.

Advanced Video Production

Mission: Through projects and cooperative learning students will learn the techniques to communicate accurately and efficient to a mass audience.

Course Description: Experienced students will be asked to further their understanding of video production by producing programming for the Viking Television Network. Students will learn more advanced theories in television technology, as well as practice more in-depth digital video editing. The understanding of managing a live broadcast television station will be exercised. Students' technical and creative abilities will be put to the test.

Big Idea: Students will continue to develop their video production skills using the more advanced software suite, Final Cut Studio. Students will be challenged to create informative and entertaining video segments that are creative and cutting edge. The programming will be used as a regular part of the Viking Television Network Programming Schedule.

Enduring Understandings:
Student will understand the importance of communication and will be able to effectively and accurately demonstrate both verbal and non verbal communication techniques. They will examine the different ways to effectively reach a mass of viewers using the skills learned in this course.

Essential Questions:
- What is communication?
- How do we effectively communicate verbally?
- How do we effectively communicate nonverbally?
- What are the components of a successful advertising campaign?
- How do we effectively create a balance of information and entertainment?
- How do you use video production equipment to communicate your ideas?
- How do you use video production software to communicate your ideas?
- What are the proper camera shots and angles to be used in professional video production?
- What are the characteristics of high quality video production?
- What skills are necessary to successfully produce a video project within a group of peers?
- What techniques are necessary to effectively create a situational comedy?
- What techniques are necessary to effectively create a stop motion video?
- What techniques are necessary to effectively deliver the news?

Students will know the following terminology…
- Roll Tape
- Broll
- Balance
- Proportion
- Emphasis
- Rhythm
- Unity
- Pan
- Tilt
- Zoom
- Trucking
- Dollying

- Exposure
- Focus
- White Balance
- "Quiet on the Set"
- Slate
- Pre-Production
- Post-Production
- Acoustics
- Pickup Patterns
- Ambient sound
- Crosstalk
- Teleprompter
- Producer
- Talent
- Director
- Character
- Generator
- Continuity

Knowledge and Skills (what students will know and do):
Students will understand and display the foundational knowledge that will allow them to create and evaluate high quality video productions while working cooperatively with peers.

Standards:
Standard 8.1 (computer and information literacy) All students will use computer applications to gather and organize information and to solve problems...

Standard 8.2 (technology education) All students will develop an understanding of the nature and impact of technology
1.1 (Aesthetics)
1.2 (Creation and Performance)
1.4 (Critique)

Standard 9.1 Career Education

Learning Activities:
Task Title: Video Project   Approximate Time Frame: 10 classes
- What is and how do you identify your target audience?
- What research is available to support the production?
- What shots, angles, and locations are crucial to the creation of the desired mood, point of view, and storyline?
- How can you effectively manage your time in order to complete the production tasks in the time allotted?
- What video and audio equipment is appropriate to the success and effectiveness of the video production?
- What transitions, effects, and titles are necessary to the success and effectiveness of the video production?
- How do you intend to display the finished production to your target audience?
- What are the ways you could improve the quality and better reach your target audience?

Give it Life
How To Video
Livetype
Movie Remakes
Music Video
Setting the Mood
Sportscenter
Video News Package
Cumulative Project

Assessments:

What evidence will show that students understand?
Evidence of student understanding will be based upon evaluation through the use of a rubric assessment and a peer review process. Every project based learning activity will be graded using a similar rubric, which will be given out at the beginning of each project. In addition all projects will be evaluated using a peer review process following the completion of the project.

Unprompted Evidence: e.g. Observations and dialogues
The teacher, throughout the work periods that the projects are being produced, will closely monitor student progress. Students will be required to submit a project timeline detailing the tasks of which are to be completed on a daily basis. Students will also receive peer and teacher participation grades based on the amount of work that they have completed.

Student Self Assessment:
Students will be responsible for logging their daily activities in their "Do Now" journals and be accountable for the progress they record. In addition, students will be required to take part in a peer review process identifying the "praise" and "polish" points of each production. During the production, students will be responsible for managing their time effectively to complete scheduled tasks and acquire teacher signatures.

Formative: The purpose is to witness the students' understanding of the techniques and creativity necessary to work cooperatively to create an effective video production.

Summative: The purpose is to identify the students' ability to provide detailed pre-planning techniques and constructive criticism in order to improve their mass communication and post-production editing skills.

Connections: Connections are made in math, English, public speaking, workplace readiness, and language arts.

Cross Curricular: Cross-Curricular connections are made throughout the project portion of the class. Language arts connections are made through documentation of project work. Workplace readiness connections are made through forcing students to maintain a clean work environment and also by working in groups with different students to complete a task. Students are challenged on regular basis to think creatively and use the skill from other classes to create projects that incorporate the skills developed in other areas of their education.

Technology: Through the use of many technological innovations students have an enormous exposure to technology. We use Mac computers running many different levels of video and graphical editing

software. Students operate video cameras, lighting boards, live production equipment and several types of audio systems throughout the class experience.

Character Education (Core Values): Character Education or core values are promoted all year by forcing the students to work in different groups and be respectful of one another.   In addition, students are expected to work as role models and are a direct reflection of our program. Students are taught about how to act professionally and appropriately on camera and when handling equipment.

Career: Students research careers and develop many skills that are "industry standard". Students leave the high school with training equivalent to many post secondary schools. In addition, students have the opportunity to work in a professional setting and observe the responsibilities of those who work in the video production field.

Resources:

Technologies:
Technologies that are used in class include, but are not limited to, the computers for documentation purposes, the machinery, an LCD projector and screen among others.

Scope and Sequence (Suggested Pacing Chart)

YEAR LONG TOPICS
Advancing students knowledge of the working of the digital video camcorder and the many options and manual adjustments that can be made to improve the quality of the recordings.

Advancing students knowledge of the working of the digital video editing software used in the classroom. Continuing to gain knowledge of the various features the programs have to offer the student.

FIRST QUARTER

1.1 (Aesthetics) 1.2 (Creation and Performance) 1.4 (Critique) 8.1 (Comp and Info Literacy) 8.2 (Technology Ed.) 9.1 (Career and Technical Ed)	-Review of iMovie and Shots -Bring it to Life -Intro to Final Cut Pro -Cutting Clips -Setting Scratch Disks -Adding Effects -Importing Video -Logging Clips -Importing Audio -Public Service Announcements -Music Videos	-What is communication? -How do we effectively communicate verbally? -How do we effectively communicate nonverbally? -How do you use video production equipment to communicate your ideas? -How do you use video production software to communicate your ideas? -What are the proper camera shots and angles to be used in professional video production? -What skills are necessary to successfully produce a video project within a group of peers?

SECOND QUARTER

1.1 (Aesthetics) 1.2 (Creation and Performance) 1.4 (Critique) 8.1 (Comp and Info Literacy) 8.2 (Technology Ed.) 9.1 (Career and Technical Ed)	-Music Videos -Movie Remakes -LiveType -Integrating LiveType with FCP -How To Videos	-What are the components of a successful advertising campaign? -How do we effectively create a balance of information and entertainment? -How do you use video production equipment to communicate your ideas? -How do you use video production software to communicate your ideas? -What are the proper camera shots and angles to be used in professional video production? -What are the characteristics of high quality video production? -What skills are necessary to successfully produce a video project within a group of peers?

THIRD QUARTER

1.1 (Aesthetics) 1.2 (Creation and Performance) 1.4 (Critique) 8.1 (Comp and Info Literacy) 8.2 (Technology Ed.) 9.1 (Career and Technical Ed)	-Setting the Mood -Shooting with Feeling -Adding Music for Video -Electronic News Gathering -Standups -Closings -Voiceovers -Writing News for TV -News Package	-How do we effectively create a balance of information and entertainment? -How do you use video production equipment to communicate your ideas? -How do you use video production software to communicate your ideas? -What are the proper camera shots and angles to be used in professional video production? -What are the characteristics of high quality video production? -What skills are necessary to successfully produce a video project within a group of peers? -What techniques are necessary to effectively create a situational comedy? What techniques are necessary to effectively create a stop motion video?

FOURTH QUARTER

1.1 (Aesthetics) 1.2 (Creation and Performance) 1.4 (Critique) 8.1 (Comp and Info Literacy) 8.2 (Technology Ed.)	-Writing for Sports -Filming for Sports -Sportscenter Package -Sportscenter: The Big Show -Choose your Adventure -Final Critiquing	-How do we effectively create a balance of information and entertainment? -How do you use video production equipment to communicate your ideas? -How do you use video production software to communicate your ideas? -What are the proper camera shots and

9.1 (Career and Technical Ed)		angles to be used in professional video production? -What are the characteristics of high quality video production? -What skills are necessary to successfully produce a video project within a group of peers? -What skills are necessary to effectively deliver the news?

DEPARTMENT AGREEMENTS ON MINIMUM COURSE PROFICIENCIES:

In order to receive credit for this course, students must exhibit proficiency in the topics described below.
GRADING/ASSESSMENTS
Grading will be broken down into four categories: - Projects are worth 40% of the grade   - Participation is worth 25% of the grade   - Tests and Quizzes are worth 25% of the grade   - Accountability is worth 10% of the grade
MINIMUM PROFICIENCY
● Students must maintain an average of 65% or better in order to achieve minimum proficiency.

Basic Car Care (Automotive Technology 1)

Mission: Students are to be actively engaged and personally invested in the "hands-on" exploration of automotive technology. Students will understand concepts every driver should know to safely co-exist with his or her vehicle. Basic Car Care will prepare students to be proficient in "living" with their vehicle. Students will gain a basic understanding of how to safely work in a shop environment to perform basic maintenance on a vehicle and additionally, becoming informed consumers.

Course Description: This is an introductory, hands-on course that is available to all students. An emphasis is placed on the needs of the new driver and first time car owners. Learning by using basic tools, students learn to perform basic car care and maintenance. The successful student will learn how the major car systems work and how to care for them.

Big Idea: Knowledge is Power

Enduring Understandings:
- The automobile is integral part of our society and culture.
- Automobiles evolve and are more than just transportation.
- A vehicle is often an extension of the individual**.**

Essential Questions:
- How and why is Automotive Design continuously evolving?
- Why is the "car" such a huge part of our culture? Is it Art or Technology?
- How can learning about your own car benefit the driver/owner?
- How much "work" can I do on my own car safely?
- How does automotive technology impact society? Environment?

Students will know the following terminology…
- Unibody and Frame Construction
- Drive Line and all basic components
- Brake System – Drum/Disk and all basic components
- Aerodynamics (drag coefficients)
- Fuel/Exhaust Systems and components
- Tools (various basic hand tools such as Sockets, Drivers, Wrenches…..)
- Personal Safety (in and around vehicles including ABS and SRS)
- Generic and Specific Shop Manuals
- Service and Maintenance Schedules
- TSB
- Recall
- SAE (Society of Automotive Engineers)
- API (American Petroleum Institute)
- DOT (Department of Transportation)
- EPA (Environmental Protection Agency)
- OHSA (Occupational Safety and Health Administration)

Knowledge and Skills (what students will know and do):
Knowledge:
- Identify different automotive construction techniques
- How an internal combustion engine works and its major components
- Identify major components of the following automotive systems (drive line, rear axle, fuel systems, exhaust system, brake system, cooling system, lubrication system, suspension system, interior control systems, passive and active safety systems)
- Basic understanding of Alternative fuel choices for the automobile.
- Exploration of how and why the automobile is such a large part of our culture and society.
- Basic understanding of the evolution of the automobile in its design, form and function.
- Career awareness within the automotive industry.

Skills:
- Understand and select service by an owners manual.
- Safely and properly perform a lubrication service (change oil).
- Properly decode manufacturer (and DOT) tire sidewall markings.
- Properly clean a vehicles interior, exterior, wheels and undercarriage.
- Identify, select and use basic hand tools in the shop environment
- Safely work in a "shop" environment.
- Complete a spare tire change using only "roadside" tools.
- Complete an automotive visual safety check.
- Properly inflate tires.
- Use the internet for appropriate automotive content research
- Participate in the maintenance of the "shop" facility (safe practices and responsibility)

Standards:
Standard 1.1.12 A (aesthetics)
Standard 1.2.12 D (skill / methods)
Standard 1.3.12 D (elements / principles of design)
Standard 1.4.12 A/B (knowledge to critique)
Standard 1.5.12 A/B (knowledge of history, compare and contrast styles)
Standard 3.1 (reading skills)
Standard 3.2 (writing skills)
Standard 3.3 (speaking skills)
Standard 3.4 (listening skills)
Standard 3.5 (viewing and media literacy)
Standard 8.1.12 A/B (computer usage, application of skills)
Standard 8.2.12 A/B/C (trade-offs, process, impacts)
Standard 9.1.12 A/B (career awareness, employable skills)
Standard 9.2.12 A/B/C/D/F (critical thinking, self management, interpersonal skills, ethics, safety)

Learning Activities:
Teaching by example (Demonstrations)
Acting as a facilitator
Formal Teaching (Lecture, information dissemination)
Guided Discovery
Student Collaboration
Informal Teaching (talks, presentations, discussions and advice)
Refer to scope and sequence chart.

Assessments:
    Cooperative learning
    Discussion groups
    Presentations
    Text Assignments
    Objective tests/quizzes
    Pre- and Post-tests
    Classroom observations/critiques
    Practice assignments

Connections:
Cross Curricular:
English: Students use computers to research information and develop a technical report.

Math: Students use meters and measurement devices in performing diagnostic evaluations.

Art: Experience automotive design as an art form, students blend art and science with respect to material choices, colors, form/function relationship, aesthetics and good design.

Family and Consumer Science: Students incorporate safe workplace practices into the classroom/lab and develop and understanding of success at the workplace; student to student connections (teamwork) involving time management and project planning.

Technology:
Students experience the appropriate technology (and tools) for success as needed in each learning area. Computers, scanners and special tooling are required and utilized for multiple automotive technology tasks.

Character Education (Core Values):
Students are given independent and group work where honesty, integrity and the adoption of best practices are essential for success of the group/class and project. Students experience personal growth through their successes in the lab environment, giving them the confidence to continue this growth on their own.

Career:
Students will explore career options in the field of automotive engineering and technology.

Resources:

Primary Text: *Automotive Service; Inspection, Maintenance, Repair – Tim Gilles, Thomson/Delmar Learning*
Other Text: *Extensive "In shop" technical library including journals and technical manuals, both generic and automotive model specific information.*

Technologies:
Various shop restoration equipment (i.e. Media blaster, air compressor, welder….)
Internet access and usage for research in Automotive Technology

SCOPE AND SEQUENCE (SUGGESTED PACING CHART)

YEAR LONG TOPICS
Do Now activities, vehicle journal updates, shop cleaning and maintenance, introductions and assistance with on-going automotive restoration (supporting advanced classes).

Awareness as to what to look for when purchasing a car and/or looking to have professional service work performed.

FIRST QUARTER

Introduction	Personal safety (gloves, eyewear and clothing) Classroom rules, precautions and procedures Introduction to the "Shop" environment, and resources (library, tool room….)
Introduction to the Automobile	Introduction, Body and Chassis, Engine Parts and Operation, Engine Support Systems, the Powertrain, Accessory Systems, History and Development of the Automobile. *Text Chapter 1* The automobile as Art? Impacts on society & culture - future possibilities; Alternative Fuels are discussed at this point (Diesel, Bio Diesel, Hybrid, Full Electric, Hydrogen….) (various materials utilized; video, books, magazines and internet) *Text Chapter 25* Career awareness: *Text Chapter 2*
Shop Tools Inspections Owners Manual	Tools of the Trade, hand tools, air tools, special tools. *Text Chapter 7* Visual Inspections (car "on the ground" and under car "on lift"). *Text Chapter 13 & 14.* SBHS "shop car" will be used for demonstration purposes. Understanding the owners manual. Service and Maintenance Schedules. Checking basic fluids (oil, transmission, coolant, power steering, brake fluid, washer fluid…..) as per the owners manual recommendations.

SECOND QUARTER

Care	Exterior car care; how to properly wash and wax the exterior of a vehicle. Tire and wheel cleaning Interior care: cleaning all surfaces of the interior: fabric, leather, glass, plastic.
Engine Layout	Engine layout and design overview (builds on chapter 1) *Text Chapter 15 & 16* Engine Lubrication and performing an Oil Change: *Text Chapter 12*
Safety and Comfort	Interior comfort systems, Car passenger safety systems (passive, active, restraint systems…) Security and Electrical Accessories (Navigation, entertainment…) *Text Chapter 79*.

Tires	Tires Theory and Service: *Text Chapter 54 & 55* Understanding tire markings. On lift and off lift tire change.

DEPARTMENT AGREEMENTS ON MINIMUM COURSE PROFICIENCIES:

In order to receive credit for this course, students must exhibit proficiency in the topics described below.

GRADING/ASSESSMENTS
    ● 60% Project Performance – inclusive of all in classroom and home work
    ● 20% Test and Quiz grades
    ● 20% Class Participation (participation, on-task, Do Nows and worksheet completion)

MINIMUM PROFICIENCY
● Attendance in accordance with SBHS guidelines   ● A minimum grade of "D" proficiency

Broadcast Journalism

Mission: Through projects and cooperative learning students will learn the techniques to communicate accurately and efficient to a mass audience using industry standard technologies in a high-paced, career-simulated environment.

Course Description: Students will be responsible for informing S.B.H.S. and the surrounding community of important events, activities and accomplishments through Viking Television Network's Morning Announcements. Video journalism, newsgathering, and studio production skills will be fine-tuned while producing the five-minute "live" program. The class will explore various journalistic approaches, study the rights of the press, and evaluate their show's effectiveness at informing the community.

Big Idea: Students are responsible for producing a daily LIVE broadcast delivering the news to the South Brunswick staff, students, and community. Students are responsible for all aspects of pre-production and live production including script writing, segment creation, and on/off air production work.

Enduring Understandings:
Students will understand the importance of working cooperatively to plan, create, and produce a daily live newscast. Students will create "heads only", "voiceover", and "electronic news gathering" packages to support and deliver the news in a way that is both entertaining and informing.

Essential Questions:
- How do we effectively communicate verbally?
- How do we effectively communicate nonverbally?
- How do we effectively create a balance of information and entertainment?
- How do you use video production equipment to communicate your ideas?
- How do you use video production software to communicate your ideas?
- What are the proper camera shots and angles to be used in professional video production?
- What are the characteristics of high quality video production?
- What skills are necessary to successfully produce a video project within a group of peers?
- What techniques are necessary to effectively create a situational comedy?
- What techniques are necessary to effectively deliver the news?
- What techniques are needed effectively manage time in order to meet a deadline?

Students will know the following terminology…
- Roll Tape
- Broll
- Balance
- Proportion
- Emphasis
- Rhythm
- Unity
- Pan
- Tilt
- Zoom
- Trucking
- Dollying
- Exposure

- Focus
- White Balance
- Quiet on the Set
- Slate
- Pre-Production
- Post-Production
- Acoustics
- Pickup Patterns
- Ambient sound
- Crosstalk
- Teleprompter
- Producer
- Talent
- Director
- Character Generator
- Continuity
- Composition

Knowledge and Skills (what students will know and do):

Skills:
Students will be able to…
Understand and display the knowledge learned in other classes as well as new knowledge that will allow them to create and evaluate high quality video productions while working cooperatively with peers.

Knowledge:
Students will know…
- Package Planning
- Identifying package topics
- Preparing a Package Proposal
- Writing/Recording Standups
- Writing/Recording Closings
- Writing/Recording Voiceovers
- Identifying/Recording Broll
- Identifying effective music to enhance video
- Generating a Timeline for video sequence
- Peer review sessions
- Creation and insertion of Graphics and Character Generations
- Exporting to tap
- Preparing for a live production shoot
- Live Production work
- Camera Work
- Audio Technician
- Technical Direction
- Production Direction VTR Operation Teleprompter Operation
- Floor Management
- On Air Talent
- Scriptwriting

Standards:

Standard 8.1 (computer and information literacy) All students will use computer applications to gather and organize information and to solve problems...

Standard 8.2 (technology education) All students will develop an understanding of the nature and impact of technology
1.1 (Aesthetics)
1.2 (Creation and Performance)
1.4 (Critique)

Standard 9.1 (Career and Technical Ed)

Learning Activities:

Task Title: Video Project   Approximate Time Frame: 9 classes
- What is and how do you identify your target audience?
- What research is available to support the production?
- What shots, angles, and locations are crucial to the creation of the desired mood, point of view, and storyline?
- How can you effectively manage your time in order to complete the production tasks in the time allotted?
- What video and audio equipment is appropriate to the success and effectiveness of the video production?
- What transitions, effects, and titles are necessary to the success and effectiveness of the video production?
- How do you intend to display the finished production to your target audience?
- What are the ways you could improve the quality and better reach your target audience?

Production of daily announcement broadcast:
- *Producer* – responsible for organization of announcements and getting each member of class working together to complete broadcast.
- *Lead Anchor 1* – Writing of script, forwarding announcements to club & sport anchor, delivering announcements during live broadcast.
- *Lead Anchor 2* – Writing of script, forwarding announcements to club & sport anchor, delivering announcements during live broadcast.
- *Sports Anchor* – Writing of sports script, delivering the announcements during live broadcast.
- *Club Anchor* – Writing of club script, delivering the announcements during live broadcast.
- *Announcement Producer/Switcher* – Produce a video of one of the announcements in the script. Operate the video switcher during live broadcast.
- *Editor* – Edit and assemble all videos that will be shown during live broadcast. Run DV deck during live broadcast.
- *Graphics Creation* – Create graphic images to support announcements. Graphics will be for the opening, closing and each club announcement.
- *Segment Producers* – Teams of 2 responsible for producing several different video segments.

Additional Daily Segments
- Daily News Cast
- Individual Expressive Intro

- Weather
- "Tone Def" Call in Segment
- Meet the Staff
- Snapple Facts
- Obscure Holidays
- Birthdays Segment
- Movie Quote identification
- Trivia

Assessments:

What evidence will show that students understand?
Evidence of student understanding will be based upon evaluation through the use of a rubric assessment and a peer review process. Every project based learning activity will be graded using a similar rubric, which will be given out at the beginning of each project. In addition, all projects will be evaluated using a peer review process following the completion of the project.

Unprompted Evidence: e.g. Observations and dialogues
The teacher, throughout the work periods that the projects are being produced, will closely monitor student progress. Students will be required to submit a project timeline detailing the tasks of which are to be completed on a daily basis. Students will also receive peer and teacher participation grades based on the amount of work that they have completed.

Student Self Assessment:
Students will be responsible for logging their daily activities in their "Do Now" journals and be accountable for the progress they record. In addition students will be required to take part in a peer review process identifying the "praise" and "polish" points of each production. During the production, students will be responsible for managing their time effectively to complete scheduled tasks and acquire teacher signatures.

Formative: The purpose is to witness the students' understanding of the techniques and creativity necessary to work cooperatively to create an effective video production.

Summative: The purpose is to identify the students' ability to provide detailed pre-planning techniques and constructive criticism in order to improve their mass communication and post-production editing skills.

Connections: Connections are made in math, English, public speaking, workplace readiness, and language arts.

Cross Curricular: Cross-Curricular connections are made throughout the project portion of the class. Language arts connections are made through documentation of project work. Workplace readiness connections are made through forcing students to maintain a clean work environment and also by working in groups with different students to complete a task. Students are challenged on regular basis to think creatively and use the skill from other classes to create projects that incorporate the skills developed in other areas of their education.

Technology: Through the use of many technological innovations students have an enormous exposure to technology. We use Mac computers running many different levels of video and graphical

editing software. Students operate video cameras, lighting boards, live production equipment and several type of audio systems throughout the class experience.

Character Education (Core Values): Character Education or core values are promoted all year by forcing the students to work in different groups and be respectful of one another. In addition, students are expected to work as role models and are a direct reflection of our program. Students are taught about how to act professionally and appropriately on camera and when handling equipment.

Career: Students research careers and develop many skills that are "industry standard". Students leave the high school with training equivalent to many post secondary schools. In addition, students have the opportunity to work in a professional setting and observe the responsibilities of those who work in the video production field.

Resources:

Technologies:
Technologies that are used in class include but are not limited to the computers for documentation purposes, the machinery, an LCD projector and screen among others.

SCOPE AND SEQUENCE (SUGGESTED PACING CHART)

YEAR LONG TOPICS
Advancing students knowledge of the working of the digital video camcorder and the many options and manual adjustments that can be made to improve the quality of the recordings.

Advancing students knowledge of the working of the digital video editing software used in the classroom. Continuing to gain knowledge of the various features the programs have to offer the student.

FIRST QUARTER

1.1 (Aesthetics) 1.2 (Creation and Performance) 1.4 (Critique) 8.1 (Comp and Info Literacy) 8.2 (Technology Ed.) 9.1 (Career and Technical Ed)	-Create Rundown -Write Script -Write Sports Report -Write Club Report -Announcements Prod/Broll -VTR Editing -Graphics Catalog -Set Prep -Mic Check -Daily Announcement Broadcast -Additional Announcement Segments	● How do we effectively communicate verbally? ● How do we effectively communicate nonverbally? ● How do we effectively create a balance of information and entertainment? ● How do you use video production equipment to communicate your ideas? ● How do you use video production software to communicate your ideas? ● What are the proper camera shots and angles to be used in professional video production? ● What are the characteristics of high quality video production? ● What skills are necessary to successfully produce a video project within a group of peers? ● What techniques are necessary to effectively create a situational comedy? ● What techniques are necessary to

		effectively deliver the news? ● What techniques are needed effectively manage time in order to meet a deadline?

SECOND QUARTER

1.1 (Aesthetics) 1.2 (Creation and Performance) 1.4 (Critique) 8.1 (Comp and Info Literacy) 8.2 (Technology Ed.) 9.1 (Career and Technical Ed)	-Create Rundown -Write Script -Write Sports Report -Write Club Report -Announcements Prod/Broll -VTR Editing -Graphics Catalog -Set Prep -Mic Check -Daily Announcement Broadcast -Additional Announcement Segments	● How do we effectively communicate verbally? ● How do we effectively communicate nonverbally? ● How do we effectively create a balance of information and entertainment? ● How do you use video production equipment to communicate your ideas? ● How do you use video production software to communicate your ideas? ● What are the proper camera shots and angles to be used in professional video production? ● What are the characteristics of high quality video production? ● What skills are necessary to successfully produce a video project within a group of peers? ● What techniques are necessary to effectively create a situational comedy? ● What techniques are necessary to effectively deliver the news? ● What techniques are needed effectively manage time in order to meet a deadline?

THIRD QUARTER

1.1 (Aesthetics) 1.2 (Creation and Performance) 1.4 (Critique) 8.1 (Comp and Info Literacy) 8.2 (Technology Ed.) 9.1 (Career and Technical Ed)	-Create Rundown -Write Script -Write Sports Report -Write Club Report -Announcements Prod/Broll -VTR Editing -Graphics Catalog -Set Prep -Mic Check -Daily Announcement Broadcast -Additional Announcement	● How do we effectively communicate verbally? ● How do we effectively communicate nonverbally? ● How do we effectively create a balance of information and entertainment? ● How do you use video production equipment to communicate your ideas? ● How do you use video production software to communicate your ideas? ● What are the proper camera shots and angles to be used in professional video

	Segments	- production? - What are the characteristics of high quality video production? - What skills are necessary to successfully produce a video project within a group of peers? - What techniques are necessary to effectively create a situational comedy? - What techniques are necessary to effectively deliver the news? - What techniques are needed effectively manage time in order to meet a deadline? - What techniques are necessary to effectively produce a segment following a point of view and concept?

FOURTH QUARTER

1.1 (Aesthetics) 1.2 (Creation and Performance) 1.4 (Critique) 8.1 (Comp and Info Literacy) 8.2 (Technology Ed.) 9.1 (Career and Technical Ed)	-Create Rundown -Write Script -Write Sports Report -Write Club Report -Announcements Prod/Broll -VTR Editing -Graphics Catalog -Set Prep -Mic Check -Daily Announcement Broadcast -Additional Announcement Segments	- How do we effectively communicate verbally? - How do we effectively communicate nonverbally? - How do we effectively create a balance of information and entertainment? - How do you use video production equipment to communicate your ideas? - How do you use video production software to communicate your ideas? - What are the proper camera shots and angles to be used in professional video production? - What are the characteristics of high quality video production? - What skills are necessary to successfully produce a video project within a group of peers? - What techniques are necessary to effectively create a situational comedy? - What techniques are necessary to effectively deliver the news? - What techniques are needed effectively manage time in order to meet a deadline?

DEPARTMENT AGREEMENTS ON MINIMUM COURSE PROFICIENCIES:

In order to receive credit for this course, students must exhibit proficiency in the topics described below.
GRADING/ASSESSMENTS
Grading will be broken down into four categories: - Projects are worth 40% of the grade - Participation is worth 25% of the grade - Tests and Quizzes are worth 25% of the grade - Accountability is worth 10% of the grade
MINIMUM PROFICIENCY
● Students must maintain an average of 65% or better in order to achieve minimum proficiency.

Engineering Technology

Mission: Through the use of technology, students will learn how to work in predetermined groups to harness the concepts of engineering through the completion of different projects throughout the year.

Course Description: This course is designed to be a "hands on" program. It challenges students to design solutions to problems, build their solutions and test their prototypes. This class also helps to build critical thinking skills in several different areas. This course allows you to see what it takes to be an engineer! An emphasis on solving problems using a specific approach will be taught. Cooperative learning will be encouraged, but students will be graded on their individual work.

Big Idea: Engineering Technology provides the hands-on experience to work with other people, tools and concepts to complete projects by using the design loop.

Enduring Understandings:
- Students will understand how to design and build prototypes to solve problems that are placed in front of them.
- Students will learn to work with the design process and really being to realize how cyclic the design process really is.

Essential Questions:
Do you know how to…
- Use the design loop as a problem solving process?
- Document the design loop on paper and in presentation?
- Safely and efficiently use small power and hand tools?
- Recite the six simple machines and explain the mechanical advantage of each?
- Know what mechanisms are and the four types of motion in mechanisms?
- Recognize at least six different mechanisms and how they incorporate changes in motion?
- Know what projectile motion is, and what is the best angle to throw a projectile?
- Make adjustments on projectile projects to decrease or increase flight angle, which in turn will increase or decrease length?
- Design a solution to common problems that plague the elderly or the handicapped?
- Recognize the parts of a boat, how to figure out the center of gravity, and surface area needed for floatation?
- Determine which type of hull design would be best for use in a boat?
- Learn all year to work in prearranged groups that will change with each project?

Students will know the following terminology…
- Triangulation
- Design Loop
- Documentation
- Trusses
- Gussets
- Mechanisms
- Fasteners
- Simple Machines
- Mechanical Advantage

- Load
- Effort
- Fulcrum
- Buoyancy
- Center of Gravity
- Center of Balance
- Trajectory
- Projectile Motion
- Trebuchet
- Catapult

Knowledge and Skills (what students will know and do):
- Design Loop Problem Solving Process
- Safety Lessons for machinery
- Importance of documentation
- Structural Systems
- Simple Machines
- Mechanisms
- Projectile Motion
- Assistive Tech.
- Buoyancy

Standards:
2.2.12 A, B., C, & E
2.5.12 A & C
4.2.12 E
5.4.12 A, B &C
5.7.12 A
8.1.12 A &B
8.2.12 A, B, & C
9.1.12 A
9.2.12 A, B, C, D & F

Learning Activities:
Classroom Safety
Machine Tool Proper Usage and Safety
Crash Cars
Simple Machines and Drawbridge
Assistive Technology and Invention to solve problem
Projectile Motion and Trebuchet
Buoyancy and Cardboard Boats

Assessments:
All projects are assessed using rubric assessment.

Connections:
Cross Curricular: Connections are made to math, physics, science, workplace readiness, and language arts. Cross-Curricular connections are made throughout the project portion of the class. Language arts connections are made through documentation of project work. Science connections are made through the

concepts of study and problems that are to be solved. Physics connections are made through the analysis of project testing and evaluation. Workplace readiness connections are made through forcing students to maintain a clean work environment and also by working in groups with different students to complete a task.

Technology: Technology is used when students create their documentation completely electronically, e-mail me attachments, or access their projects sheets through a class wiki. Technology is also used when they use the machinery in the class to create the end product of each project.

Character Education (Core Values): Character Education or core values are promoted all year by forcing the students to work in different groups and be respectful of one another.

Career: Students are able to explore many different aspects of career education, not only in different fields of engineering, but also in different trades. We work a lot with the fields of carpentry, and metalwork among others

Resources:

Technologies:
Technologies that are used in class include but are not limited to the computers for documentation purposes, the machinery, an LCD projector and screen among others.

Text:
Design and Problem Solving in Technology by Hutchinson and Karsnitz

SCOPE AND SEQUENCE (SUGGESTED PACING CHART)

YEAR LONG TOPICS
Machine and Classroom Safety, Problem Solving, and Use of the Design Loop

FIRST QUARTER

| Design Loop Problem Solving Process

Importance of documentation | Use the design loop as a problem solving process.

Document their use of the design loop on paper and in presentation. |
|---|---|
| Safety Lessons for machinery | Safely and efficiently use hand tools and small machines.

Learn all year to work in prearranged groups that will change with each project. |

SECOND QUARTER

| Structural Systems | Realize the importance of aerodynamics.

Recognize some different in-car safety systems, and incorporate them for protection |
|---|---|
| Simple Machines | Recite the six simple machines, and explain the mechanical advantage of each. |

	Know what mechanisms are and the four types of motion in mechanisms

THIRD QUARTER

Mechanisms	Know what mechanisms are and the four types of motion in mechanisms.
	Recognize at least six different mechanisms and how they incorporate changes in motion.
Projectile Motion	Know what projectile motion is, and what is the best angle to throw a projectile.
	Make adjustments on projects to decrease or increase flight angle, which in turn will increase or decrease length.

FOURTH QUARTER

Assistive Tech.	Design a solution to common problems that plague the elderly or the handicapped.
Buoyancy	Recognize the parts of a boat, how to figure out the center of gravity, and surface area needed for floatation.
	Determine which type of hull design would be best for use in a boat.

DEPARTMENT AGREEMENTS ON MINIMUM COURSE PROFICIENCIES:

In order to receive credit for this course, students must exhibit proficiency in the topics described below.
GRADING / ASSESSMENTS
Grading will be broken down into three categories: - Projects are worth 60% of the grade - Participation is worth 20% of the grade - Tests and Quizzes are worth 20% of the grade
MINIMUM PROFICIENCY
● 65% is the minimum proficiency for passing the class.

Video and Communication Technology

Mission: Through projects and cooperative learning students will learn the techniques to communicate accurately and efficient to a mass audience.

Course Description: This course is designed to help students become effective communicators. Students are introduced to the modern strategies of relaying information, while using print and video equipment. Through projects, the skills of planning, producing, and critiquing videos are developed. Students will be challenged to combine their technical and creative abilities in order to produce assignments. After successfully completing this course, student will be able to assist in productions for the Viking Television Network.

Big Idea: Students will develop foundational knowledge in the field of Communicational Technology. Students will be effective communicators using the iLife Suite and other effective strategies of communication.

Enduring Understandings:
   Students will understand the importance of communication and will be able to effectively and accurately demonstrate both verbal and non verbal communication techniques. They will examine the different ways to effectively reach a mass of viewers using the skills learned in this course.

Essential Questions:
   ● What is communication?
   ● How do we effectively communicate verbally?
   ● How do we effectively communicate nonverbally?
   ● What are the components of a successful advertising campaign?
   ● How do we effectively create a balance of information and entertainment?
   ● How do you use video production equipment to communicate your ideas?
   ● How do you use video production software to communicate your ideas?
   ● What are the proper camera shots and angles to be used in professional video production?
   ● What are the characteristics of high quality video production?
   ● What skills are necessary to successfully produce a video project within a group of peers?
   ● What techniques are necessary to effectively create a situational comedy?
   ● What techniques are necessary to effectively create a stop motion video?
   ● What techniques are necessary to effectively deliver the news?

   Students will know the following terminology…
   ● Roll Tape
   ● Broll
   ● Balance
   ● Proportion
   ● Emphasis
   ● Rhythm
   ● Unity
   ● Pan
   ● Tilt
   ● Zoom
   ● Trucking
   ● Dollying

- Exposure
- Focus
- White Balance   Quiet on the Set
- Slate
- Pre-Production
- Post-Production
- Acoustics
- Pickup Patterns
- Ambient sound
- Crosstalk
- Teleprompter
- Producer
- Talent
- Director
- Character Generator
- Continuity
- Composition

Knowledge and Skills (what students will know and do):
Students will understand and display the foundational knowledge that will allow them to create and evaluate high quality video productions while working cooperatively with peers.

-Self Portrait
-What is Communication?
-Verbal/Nonverbal
-Shots and Camera Movements
-Camera Operation
-Basics of iMovie
-Logos/Slogans
-1st Person Perspective Shooting
-Storyboarding
-Types of Commercials
-Commercial Production
-Photoshop
-Incorporating graphics in video
-Microphones
-Pickup patterns
-Appropriate use of audio in video
-Stop Motion Video
-Foley Sound FX
-Creating Audio for Video
-Introduction to Sitcoms
-Character Development
-Giving a Pitch
-The Production Crew
-Writing a Script
-Location Preparation
-Anatomy of the News?
-Important News Terms

      -Important New Jobs
      -Producing a Soft Package
      -How to Interview
      -Writing for News "inverted pyramid"
      -Writing for TV News (heads only/voiceover)
      -Newscast (position/production)

Standards:
Standard 8.1 (computer and information literacy) All students will use computer applications to gather and organize information and to solve problems.

Standard 8.2 (Technology Education) All students will develop an understanding of the nature and impact of technology
1.1 (Aesthetics)
1.2 (Creation and Performance)
1.4 (Critique)

Standard 9.1 (Career and Technical Ed)

Learning Activities:

Task Title: Video Project   Approximate Time Frame: 10 classes
- What is and how do you identify your target audience?
- What research is available to support the production?
- What shots, angles, and locations are crucial to the creation of the desired mood, point of view, and storyline?
- How can you effectively manage your time in order to complete the production tasks in the time allotted?
- What video and audio equipment is appropriate to the success and effectiveness of the video production?
- What transitions, effects, and titles are necessary to the success and effectiveness of the video production?
- How do you intend to display the finished production to your target audience?
- What are the ways you could improve the quality and better reach your target audience?

Self Portrait
Behind Door 1
Commercial
First Person Perspective
Photoshop
Stop Motion
Sitcom
Add the Audio
Cumulative Project

Assessments:
What evidence will show that students understand?
Evidence of student understanding will be based upon evaluation through the use of a rubric assessment and a peer review process. Every project based learning activity will be graded using a

similar rubric, which will be given out at the beginning of each project. In addition all projects will be evaluated using a peer review process following the completion of the project.

Unprompted Evidence: e.g. Observations and dialogues
The teacher, throughout the work periods that the projects are being produced, will closely monitor student progress. Students will be required to submit a project timeline detailing the tasks which are to be completed on a daily basis. Students will also receive peer and teacher participation grades based on the amount of work that they have completed.

Student Self Assessment:
Students will be responsible for logging their daily activities in their "Do Now" journals and be accountable for the progress they record. In addition students will be required to take part in a peer review process identifying the "praise" and "polish" points of each production. During the production, students will be responsible for managing their time effectively to complete scheduled tasks and acquire teacher signatures.

Formative: The purpose is to witness the students' understanding of the techniques and creativity necessary to work cooperatively to create an effective video production.

Summative: The purpose is to identify the students' ability to provide detailed pre-planning techniques and constructive criticism in order to improve their mass communication and post-production editing skills.

Connections:
Cross Curricular: Connections are made in math, English, public speaking, workplace readiness, and language arts. Cross-Curricular connections are made throughout the project portion of the class. Language Arts connections are made through documentation of project work. Workplace readiness connections are made through forcing students to maintain a clean work environment and also by working in groups with different students to complete a task. Students are challenged on regular basis to think creatively and use the skill from other classes to create projects that incorporate the skills developed in other areas of their education.

Technology: Through the use of many technological innovations, students have an enormous exposure to technology. We use Mac computers running many different levels of video and graphical editing software. Students operate video cameras, lighting boards, live production equipment and several types of audio systems throughout the class experience.

Character Education (Core Values): Character Education or core values are promoted all year by forcing the students to work in different groups and be respectful of one another.   In addition, students are expected to work as role models and are a direct reflection of our program. Students are taught about how to act professionally and appropriately on camera and when handling equipment.

Career: Students research careers and develop many skills that are "industry standard". Students leave the high school with training equivalent to many post secondary schools. In addition, students have the opportunity to work in a professional setting and observe the responsibilities of those who work in the video production field.

Resources:

Technologies:
Technologies that are used in class include but are not limited to the computers for documentation purposes, the machinery, an LCD projector and screen among others.

SCOPE AND SEQUENCE (SUGGESTED PACING CHART)

YEAR LONG TOPICS
Advancing students' knowledge of the working of the digital video camcorder and the many options and manual adjustments that can be made to improve the quality of the recordings.

Advancing students knowledge of the working of the digital video editing software used in the classroom. Continuing to gain knowledge of the various features the programs have to offer the student.

FIRST QUARTER

1.1 (Aesthetics) 1.2 (Creation and Performance) 1.4 (Critique) 8.1 (Comp and Info Literacy) 8.2 (Technology Ed.) 9.1 (Career and Technical Ed)	-Self Portrait -What is Communication? -Verbal/Nonverbal -Shots and Camera Movements -Camera Operation -Basics of iMovie	-What is communication? -How do we effectively communicate verbally? -How do we effectively communicate nonverbally? -How do you use video production equipment to communicate your ideas? -How do you use video production software to communicate your ideas? -What are the proper camera shots and angles to be used in professional video production? -What skills are necessary to successfully produce a video project within a group of peers?

SECOND QUARTER

1.1 (Aesthetics) 1.2 (Creation and Performance) 1.4 (Critique) 8.1 (Comp and Info Literacy) 8.2 (Technology Ed.) 9.1 (Career and Technical Ed)	-Logos/Slogans -1st Person Perspective Shooting -Storyboarding -Types of Commercials -Commercial Production -Photoshop -Incorporating graphics in video -Microphones -Pickup patterns -Appropriate use of audio in video	-What are the components of a successful advertising campaign? -How do we effectively create a balance of information and entertainment? -How do you use video production equipment to communicate your ideas? -How do you use video production software to communicate your ideas? -What are the proper camera shots and angles to be used in professional video production? -What are the characteristics of high quality video production? -What skills are necessary to successfully produce a video project within a group of peers?

THIRD QUARTER

1.1 (Aesthetics) 1.2 (Creation and Performance) 1.4 (Critique) 8.1 (Comp and Info Literacy) 8.2 (Technology Ed.) 9.1 (Career and Technical Ed)	-Stop Motion Video -Foley Sound FX -Creating Audio for Video -Introduction to Sitcoms -Character Development -Giving a Pitch -The Production Crew -Writing a Script -Location Preparation	-How do we effectively create a balance of information and entertainment? -How do you use video production equipment to communicate your ideas? -How do you use video production software to communicate your ideas? -What are the proper camera shots and angles to be used in professional video production? -What are the characteristics of high quality video production? -What skills are necessary to successfully produce a video project within a group of peers? -What techniques are necessary to effectively create a situational comedy? What techniques are necessary to effectively create a stop motion video?

FOURTH QUARTER

1.1 (Aesthetics) 1.2 (Creation and Performance) 1.4 (Critique) 8.1 (Comp and Info Literacy) 8.2 (Technology Ed.) 9.1 (Career and Technical Ed)	-Anatomy of the News? -Important News Terms -Important New Jobs -Producing a Soft Package -How to Interview -Writing for News "inverted pyramid" -Writing for TV News (heads only/voiceover) -Newscast (position/production)	-How do we effectively create a balance of information and entertainment? -How do you use video production equipment to communicate your ideas? -How do you use video production software to communicate your ideas? -What are the proper camera shots and angles to be used in professional video production? -What are the characteristics of high quality video production? -What skills are necessary to successfully produce a video project within a group of peers? -What skills are necessary to effectively deliver the news?

DEPARTMENT AGREEMENTS ON MINIMUM COURSE PROFICIENCIES:

In order to receive credit for this course, students must exhibit proficiency in the topics described below.
GRADING / ASSESSMENTS
Grading will be broken down into four categories: - Projects are worth 40% of the grade - Participation is worth 25% of the grade - Tests and Quizzes are worth 25% of the grade - Accountability is worth 10% of the grade
MINIMUM PROFICIENCY
● Students must maintain an average of 65% or better in order to achieve minimum proficiency.

Making the Grade:
Advanced Studio Production for Television

Mission: Through projects and cooperative learning students will learn the techniques to communicate accurately and efficient to a mass audience using industry standard technologies in a high-paced, career-simulated environment.

Course Description: This course will focus on the production of a television show for the South Brunswick School District. Students will investigate the various responsibilities and requirements of producing a show for television. There will be a focus on the 'behind the scenes' aspects of television production, scriptwriting, and segment planning. Students will work together as a production crew to develop the show 'Making the Grade', a monthly segment focusing on the successes of students and staff in the South Brunswick School District.

Big Idea: Students reach the capstone experience of the TV Production curriculum in this course. Students are challenged to uphold the responsibilities of producing a monthly 30 minute "District in Review" themed show. Students handle all areas of pre-production, production, and post-production.

Enduring Understandings: Students will understand the importance of working within a team to create a complete season of their own TV series. Students will work with partners to identify, research, plan, and produce 3-4 minute packages which will be compiled to create a 30 minute panel discussion show. Students will be challenged technically and creatively to develop fresh concepts to effectively inform and entertain a target audience.

Essential Questions:
- How do we effectively communicate verbally?
- How do we effectively communicate nonverbally?
- How do we effectively create a balance of information and entertainment?
- How do you use video production equipment to communicate your ideas?
- How do you use video production software to communicate your ideas?
- What are the proper camera shots and angles to be used in professional video production?
- What are the characteristics of high quality video production?
- What skills are necessary to successfully produce a video project within a group of peers?
- What techniques are necessary to effectively create a situational comedy?
- What techniques are necessary to effectively deliver the news?
- What techniques are needed effectively manage time in order to meet a deadline?
- What are the proper techniques necessary to plan and record a successful interview?
- What techniques are necessary to effectively produce a segment following a point of view and concept?

Students will know the following terminology…
- Roll Tape
- Broll
- Balance
- Proportion
- Emphasis
- Rhythm
- Unity
- Pan
- Tilt
- Zoom
- Trucking
- Dollying
- Exposure
- Focus
- White Balance
- "Quiet on the Set"
- Slate
- Pre-Production
- Post-Production
- Acoustics
- Pickup Patterns
- Ambient sound
- Crosstalk
- Teleprompter
- Producer
- Talent
- Director
- Character Generator
- Continuity
- Composition

Knowledge and Skills (what students will know and do):
Students will understand and display the knowledge learned in other classes as well as new knowledge that will allow them to create and evaluate high quality video productions while working cooperatively with peers.

Students will be able to:
- Package Planning
- Identifying package topics
- Research and identification of lead contact on a topic
- Preparing a Package Proposal
- Writing/Recording Standups
- Writing/Recording Closings
- Writing/Recording Voiceovers
- Identifying/Recording Broll
- Identifying effective music to enhance video
- Generating a Timeline for video sequence

- Peer review sessions
- Creation and insertion of Graphics and Character Generations
- Exporting to tape
- Preparing for a live production shoot
- Live Production work
- Camera Work
- Audio Technician
- Technical Direction
- Production Direction
- VTR Operation
- Teleprompter Operation
- Floor Management
- On Air Talent

Standards:
Standard 8.1 (Computer and Information Literacy) All students will use computer applications to gather and organize information and to solve problems.

Standard 8.2 (Technology Education) All students will develop an understanding of the nature and impact of technology
1.1 (Aesthetics)
1.2 (Creation and Performance)
1.4 (Critique)

Standard 9.1 (Career and Technical Ed)

Learning Activities:

Task Title: Video Project   Approximate Time Frame: 9 classes
- What is and how do you identify your target audience?
- What research is available to support the production?
- What shots, angles, and locations are crucial to the creation of the desired mood, point of view, and storyline?
- How can you effectively manage your time in order to complete the production tasks in the time allotted?
- What video and audio equipment is appropriate to the success and effectiveness of the video production?
- What transitions, effects, and titles are necessary to the success and effectiveness of the video production?
- How do you intend to display the finished production to your target audience?
- What are the ways you could improve the quality and better reach your target audience?

Electronic News Gathering
Promotional Video Production
Upcoming Event Video Production
Live Production Shoot using 4 Cameras
Creation of a Monologue Based Production

Assessments:

What evidence will show that students understand?
Evidence of student understanding will be based upon evaluation through the use of a rubric assessment and a peer review process. Every project based learning activity will be graded using a similar rubric, which will be given out at the beginning of each project. In addition all projects will be evaluated using a peer review process following the completion of the project.

Unprompted Evidence: e.g. Observations and dialogues
The teacher, throughout the work periods that the projects are being produced, will closely monitor student progress. Students will be required to submit a project timeline detailing the tasks of which are to be completed on a daily basis. Students will also receive peer and teacher participation grades based on the amount of work that they have completed.

Student Self-Assessment:
Students will be responsible for logging their daily activities in their "Do Now" journals and be accountable for the progress they record. In addition students will be required to take part in a peer review process identifying the "praise" and "polish" points of each production. During the production, students will be responsible for managing their time effectively to complete scheduled tasks and acquire teacher signatures.

Formative: The purpose is to witness the students' understanding of the techniques and creativity necessary to work cooperatively to create an effective video production.

Summative: The purpose is to identify the students' ability to provide detailed pre-planning techniques and constructive criticism in order to improve their mass communication and post-production editing skills.

Connections: Connections are made in math, English, public speaking, workplace readiness, and language arts.

Cross Curricular: Cross-Curricular connections are made throughout the project portion of the class. Language arts connections are made through documentation of project work. Workplace readiness connections are made through forcing students to maintain a clean work environment and also by working in groups with different students to complete a task. Students are challenged on regular basis to think creatively and use the skill from other classes to create projects that incorporate the skills developed in other areas of their education.

Technology: Through the use of many technological innovations students have an enormous exposure to technology. We use Mac computers running many different levels of video and graphical editing software. Students operate video cameras, lighting boards, live production equipment and several types of audio systems throughout the class experience.

Character Education (Core Values): Character Education or core values are promoted all year by forcing the students to work in different groups and having to be respectful to one another. In addition, students are expected to work as role models and are a direct reflection of our program. Students are taught about how to act professionally and appropriately on camera and when handling equipment.

Career: Students research careers and develop many skills that are "industry standard". Students leave the high school with training equivalent to many post secondary schools. In addition, students have the opportunity to work in a professional setting and observe the responsibilities of those who work in the video production field.

Resources:

Technologies:
Technologies that are used in class include but are not limited to the computers for documentation purposes, the machinery, an LCD projector and screen among others.

SCOPE AND SEQUENCE (SUGGESTED PACING CHART)

YEAR LONG TOPICS
Advancing students' knowledge of the working of the digital video camcorder and the many options and manual adjustments that can be made to improve the quality of the recordings.

Advancing students' knowledge of the working of the digital video editing software used in the classroom. Continuing to gain knowledge of the various features the programs have to offer the student.

FIRST QUARTER

1.1 (Aesthetics) 1.2 (Creation and Performance) 1.4 (Critique) 8.1 (Comp and Info Literacy) 8.2 (Technology Ed.) 9.1 (Career and Technical Ed)	-Project Proposal -Interviews -Opening Standup Statement -Closing Standup Statement -Voiceover Creation -Preliminary Edits -Timeline Construction -Video Transitions -Audio Enhancements -Music implementation -Normalization of Audio -Character Generation -Print to Video -Episode Pre-Production -Episode Filming -Peer review and critique	● How do we effectively communicate verbally? ● How do we effectively communicate nonverbally? ● How do we effectively create a balance of information and entertainment? ● How do you use video production equipment to communicate your ideas? ● How do you use video production software to communicate your ideas? ● What are the proper camera shots and angles to be used in professional video production? ● What are the characteristics of high quality video production? ● What skills are necessary to successfully produce a video project within a group of peers? ● What techniques are necessary to effectively create a situational comedy? ● What techniques are necessary to effectively deliver the news? ● What techniques are needed

		• effectively manage time in order to meet a deadline?
		• What are the proper techniques necessary to plan and record a successful interview?
		• What techniques are necessary to effectively produce a segment following a point of view and concept?

SECOND QUARTER

1.1 (Aesthetics) 1.2 (Creation and Performance) 1.4 (Critique) 8.1 (Comp and Info Literacy) 8.2 (Technology Ed.) 9.1 (Career and Technical Ed)	-Project Proposal -Interviews -Opening Standup Statement -Closing Standup Statement -Voiceover Creation -Preliminary Edits -Timeline Construction -Video Transitions -Audio Enhancements -Music implementation -Normalization of Audio -Character Generation -Print to Video -Episode Pre-Production -Episode Filming -Peer review and critique	• How do we effectively communicate verbally? • How do we effectively communicate nonverbally? • How do we effectively create a balance of information and entertainment? • How do you use video production equipment to communicate your ideas? • How do you use video production software to communicate your ideas? • What are the proper camera shots and angles to be used in professional video production? • What are the characteristics of high quality video production? • What skills are necessary to successfully produce a video project within a group of peers? • What techniques are necessary to effectively create a situational comedy? • What techniques are necessary to effectively deliver the news? • What techniques are needed effectively manage time in order to meet a deadline? • What are the proper techniques necessary to plan and record a successful interview? • What techniques are necessary to effectively produce a segment following a point of view and concept?

THIRD QUARTER

1.1 (Aesthetics) 1.2 (Creation and Performance) 1.4 (Critique) 8.1 (Comp and Info Literacy) 8.2 (Technology Ed.) 9.1 (Career and Technical Ed)	-Project Proposal -Interviews -Opening Standup Statement -Closing Standup Statement -Voiceover Creation -Preliminary Edits -Timeline Construction -Video Transitions -Audio Enhancements -Music implementation -Normalization of Audio -Character Generation -Print to Video -Episode Pre-Production -Episode Filming -Peer review and critique	● How do we effectively communicate verbally? ● How do we effectively communicate nonverbally? ● How do we effectively create a balance of information and entertainment? ● How do you use video production equipment to communicate your ideas? ● How do you use video production software to communicate your ideas? ● What are the proper camera shots and angles to be used in professional video production? ● What are the characteristics of high quality video production? ● What skills are necessary to successfully produce a video project within a group of peers? ● What techniques are necessary to effectively create a situational comedy? ● What techniques are necessary to effectively deliver the news? ● What techniques are needed effectively manage time in order to meet a deadline? ● What are the proper techniques necessary to plan and record a successful interview? ● What techniques are necessary to effectively produce a segment following a point of view and concept?

FOURTH QUARTER

1.1 (Aesthetics) 1.2 (Creation and Performance) 1.4 (Critique) 8.1 (Comp and Info Literacy) 8.2 (Technology Ed.) 9.1 (Career and Technical Ed)	-Project Proposal -Interviews -Opening Standup Statement -Closing Standup Statement -Voiceover Creation -Preliminary Edits -Timeline Construction -Video Transitions -Audio Enhancements	● How do we effectively communicate verbally? ● How do we effectively communicate nonverbally? ● How do we effectively create a balance of information and entertainment? ● How do you use video production equipment to communicate your

	-Music implementation -Normalization of Audio -Character Generation -Print to Video -Episode Pre-Production -Episode Filming -Peer review and critique	ideas? ● How do you use video production software to communicate your ideas? ● What are the proper camera shots and angles to be used in professional video production? ● What are the characteristics of high quality video production? ● What skills are necessary to successfully produce a video project within a group of peers? ● What techniques are necessary to effectively create a situational comedy? ● What techniques are necessary to effectively deliver the news? ● What techniques are needed effectively manage time in order to meet a deadline? ● What are the proper techniques necessary to plan and record a successful interview? ● What techniques are necessary to effectively produce a segment following a point of view and concept?

DEPARTMENT AGREEMENTS ON MINIMUM COURSE PROFICIENCIES:

In order to receive credit for this course, students must exhibit proficiency in the topics described below.
GRADING / ASSESSMENTS

Grading will be broken down into four categories:
   -   Projects are worth 40% of the grade
   -   Participation is worth 25% of the grade
   -   Tests and Quizzes are worth 25% of the grade
   -   Accountability is worth 10% of the grade

MINIMUM PROFICIENCY
● Students must maintain an average of 65% or better in order to achieve minimum proficiency.

GLOSSARY

TECHNOLOGY EDUCATION: GLOSSARY

The following tech terms are used in the NJCCCS for Technology Education.

Controversial issue: For example, global warming, scarcity of water, alternative energy sources, election campaigns.

Current and emerging technology resources: For example, cell phones, GPS, online communities using wikis, blogs, vlogs, and/or Nings.

Data-collection technology: For example, probes, handheld devices, and geographic mapping systems.

Design Process: Example Engineering is Elementary. See http://www.mos.org/eie/engineering_design.php

Digital learning game: For example, Alice, Lively. See Scratch http://scratch.mit.edu

Developmentally appropriate: Students' developmental levels prescribe the learning environment and activities that are used.

Digital tools for grade 2: For example, computers, digital cameras, software. Emerging for K iPad pilot Apps on iPad

Digital tools for grades 4, 8, and 12: For example, computers, digital cameras, probing devices, software, cell phones, GPS, online communities, VOIP, and virtual conferences.

Electronic authoring tools: Software that facilitates online book development (e.g., multimedia electronic book).

Game Design: For example, MissionMaker http://www.idoodlesoftware.com/products.html

Mapping tools: For example, Google earth, Yahoo maps, and Google maps.

Media-rich: Multiple forms of digital applications in one product (e.g., graphic design, word processing, and spreadsheet). SMART Board

Multimedia presentation: For example, movie, podcast, vlog.

Online discussion: UNICEF, Oracle, i-Earn, blogs, wikis.

Online learning community: For example, i-Earn, Ning, blogs, wikis, Second Life.

Operations and related applications: For example, saving a word processing file to a network drive, printing a spreadsheet.

Reverse engineer: To isolate the components of a completed system.

Shared hosted services: For example, podcasts, videos, or vlogs.

Technologies: Medical, agricultural, and related biotechnologies, energy and power technologies, information and communications technologies, transportation technologies, manufacturing technologies, and construction technologies.

Virtual environments: For example, games, simulations, websites, blogs. Emerging for K iPad pilot Apps on iPad

Web-based publication: For example, web pages, wikis, blogs, ezines

South Brunswick School District

**SB
SD**

DISTRICT APPENDIX

There are the various strands that cross content.

They have relevance to every curricular area and all grade levels.

**The strands are interwoven into content and integrated into instruction.
They do not stand alone.**

A synopsis of each strand is included in this document.

**The full SBSD K-12 District Appendix, with detailed information about each strand,
can be found as a separate document.**

Topics

Teaching for the 21st Century

Educational Technology Standards

21st Century Life and Career Education Skills

Character Education

Differentiation

Understanding by Design (UbD): "Reader's Digest" Version

Topic

Teaching for the 21st Century:
What does this mean and how do you do it?

Students need to gain skills that will enable them to learn on their own, think critically and creatively, and apply knowledge to new situations. An emphasis needs to be placed on problem solving, teamwork skills, global awareness, and proficiency in using technology. Students need to learn to collaborate and work on authentic problems that they will likely encounter in their future careers. This section will outline what this means and how you "teach" for the 21st century: Elementary, Middle and High.

Tools for the 21st Century:
Life, Careers, and Digital Environments

21st Century Life and Career Education Skills and Educational Technology Skills outline the NJ Core Curriculum Content Standards for these areas that align with PK-12 learning.

These standards are written into the curriculum documents for all areas of content—English Language Arts, Mathematics, Science, Social Studies, PE/Health Education, Visual Art, Music, World Language and Library-Media. They are integrated into curriculum and instruction in places where it is relevant and meaningful to do so, and in ways that enhance learning. You will see these integrations explicitly noted in the curriculum guides: Elementary, Middle and High.

Character Education:
Safe and Caring Learning Communities

South Brunswick takes an "approach" to character education that fosters the social, emotional and academic growth of each child. The intent is to create a safe and caring community while building life skills based on the five core values (CARES):
C   Cooperation
A   Assertion
R   Responsibility (and Respect)
E   Empathy
S   Self-Control

For over ten years, the K-5 teachers have been trained in and have followed the *Responsive Classroom (RC)* approach.

The middle school teachers have studied and/or been trained in the *Developmental Designs (DD)* approach to character education.

The high school approach has been named "Strive for Five" and includes an annual theme with related

activities to bring Character Education to the forefront. There is always a service-learning project connected to the theme. In addition, the high school also follows the *Institute of Excellence and Ethics* (IEE) approach. The IEE approach allows for explicit teaching of Character Education through a series of multimedia lessons that are embedded into the students' schedules.

Differentiation

Differentiation of instruction is a deliberate and conscious method of planning and teaching that provides multiple avenues of learning. It means different challenges to different students. It is characterized by strategies that use an assessment of each individual student for readiness, interest and learning style to modify instruction in three ways: by content, process and product.

In this document, there is a brief description of several approaches and methods that have long been utilized in South Brunswick to meet the differentiated needs of students within the classroom.

· Bloom's Taxonomy
· Gardner's Multiple Intelligences
· Learning Styles
· Inclusion Classrooms
· Kagan Cooperative Learning
· Principles of Differentiation

It is expected that classroom instruction will be differentiated. This expectation is predicated upon the belief or disposition that "all students can learn."

Understanding by Design

For nearly two decades, the South Brunswick School District has held much value in the Understanding by Design (UbD) or Backward Design model of curriculum writing by Grant Wiggins. This model and the process of curriculum development, has been used in the district for many years. The curriculum template—which was recommended by the State of NJ and adopted/adapted by the District, includes elements of the UbD approach.)

You will note that in every curricular area, we begin with the end in mind (that is, the big idea). Enduring understandings, essential questions and performance assessments—all based on standards--are used in the process of curriculum development.

With this being said, it is not only important to understand the process of UbD, but also how to implement curriculum designed in such a way.

A brief overview of how to use Understanding by Design in delivering curriculum is included in the Appendix.