



# Engineering & Technology and Engineering Concepts WAG

JANUARY 5 - 13

1ST & 2ND YEAR LEVEL

# What you will need



SOME FORM OF  
TECHNOLOGY



A QUIET WORKSPACE



YOUR LOG IN INFO AND  
ASSIGNMENT SUGGESTED  
TIMELINE

# Positive Reinforcement & Communication

**The great thing about this time is that you get to self-pace in class. There is no pressure for you to be the first or pressure if you are the last to complete. This form of learning will help you to get your tasks done with greater confidence.**

If you need any assistance, remember to contact me via REMIND. This is the best way to reach me. For all other ways to contact me please see the turnaround time for correspondence. Gauge the importance of your inquiry when initiating contact.

- ▶ Via REMIND – within 1-3 hours

(Class codes are **@et1styr engineering & technology & @ec2ndyr Engineering Concepts**)

- ▶ Via email – within 24 hours (cartepa1@richmond.k12.ga.us)
- ▶ Via phone – within 48 hours (706-600-9929)

Please be mindful that I consistently work to respond to all questions, concerns, or assist with any challenges in a timely manner.

# Foundations of Engineering & Technology 1st year level

**Standard: Demonstrate employability skills required by business and industry.**  
The following elements should be integrated throughout the content of this course.

**1.1 Communicate effectively through writing, speaking, listening, reading, and interpersonal abilities.**

Person-to-Person Etiquette	Telephone and Email Etiquette	Cell Phone and Internet Etiquette	Communicating At Work	Listening
Interacting with Your Boss	Telephone Conversations	Using Blogs	Improving Communication Skills	Reasons, Benefits, and Barriers
Interacting with Subordinates	Barriers to Phone conversations	Using Social Media	Effective Oral Communication	Listening Strategies
Interacting with Co-workers	Making and Returning Calls		Effective Written Communication	Ways We Filter What We Hear
Interacting with Suppliers	Making Cold Calls		Effective Nonverbal Skills	Developing a Listening Attitude
	Handling Conference Calls		Effective Word Use	Show You Are Listening
	Handling Unsolicited Calls		Giving and Receiving Feedback	Asking Questions
				Obtaining Feedback
				Getting Others to Listen

Nonverbal Communication	Written Communication	Speaking	Applications and Effective Résumés
Communicating Nonverbally	Writing Documents	Using Language Carefully	Completing a Job Application
Reading Body Language and mixed Messages	Constructive Criticism in Writing	One-on-One Conversations	Writing a Cover Letter

Matching Verbal and Nonverbal communication		Small Group Communication	Things to Include in a Résumé
Improving Nonverbal Indicators		Large Group Communication	Selling Yourself in a Résumé
Nonverbal Feedback		Making Speeches	Terms to Use in a Résumé
Showing Confidence Nonverbally		Involving the Audience	Describing Your Job Strengths
Showing Assertiveness		Answering Questions	Organizing Your Résumé
		Visual and Media Aids	Writing an Electronic Résumé
		Errors in Presentation	Dressing Up Your Résumé

# ON GOING STANDARDS:

**1.2 Demonstrate creativity by asking challenging questions and applying innovative procedures and methods.**

Teamwork and Problem Solving	Meeting Etiquette
Thinking Creatively	Preparation and Participation in Meetings
Taking Risks	Conducting Two-Person or Large Group Meetings
Building Team Communication	Inviting and Introducing Speakers
	Facilitating Discussions and Closing
	Preparing Visual Aids
	Virtual Meetings

**1.3 Exhibit critical thinking and problem solving skills to locate, analyze and apply information in career planning and employment situations.**

Problem Solving	Customer Service	The Application Process	Interviewing Skills	Finding the Right Job
Transferable Job Skills	Gaining Trust and Interacting with Customers	Providing Information, Accuracy and Double Checking	Preparing for an Interview	Locating Jobs and Networking
Becoming a Problem Solver	Learning and Giving Customers What They Want	Online Application Process	Questions to Ask in an Interview	Job Shopping Online
Identifying a Problem	Keeping Customers Coming Back	Following Up After Submitting an Application	Things to Include in a Career Portfolio	Job Search Websites
Becoming a Critical Thinker	Seeing the Customer's Point	Effective Résumés:	Traits Employers are Seeking	Participation in Job Fairs
Managing	Selling Yourself and the Company	Matching Your Talents to a Job	Considerations Before Taking a Job	Searching the Classified Ads
	Handling Customer Complaints	When a Résumé Should be Used		Using Employment Agencies
	Strategies for Customer Service			Landing an Internship
				Staying Motivated to Search

# Engineering Concepts 2nd year level

**1.4 Model work readiness traits required for success in the workplace including integrity, honesty, accountability, punctuality, time management, and respect for diversity.**

Workplace Ethics	Personal Characteristics	Employer Expectations	Business Etiquette	Communicating at Work
Demonstrating Good Work Ethic	Demonstrating a Good Attitude	Behaviors Employers Expect	Language and Behavior	Handling Anger
Behaving Appropriately	Gaining and Showing Respect	Objectionable Behaviors	Keeping Information Confidential	Dealing with Difficult Coworkers

Maintaining Honesty	Demonstrating Responsibility	Establishing Credibility	Avoiding Gossip	Dealing with a Difficult Boss
Playing Fair	Showing Dependability	Demonstrating Your Skills	Appropriate Work Email	Dealing with Difficult Customers
Using Ethical Language	Being Courteous	Building Work Relationships	Cell Phone Etiquette	Dealing with Conflict
Showing Responsibility	Gaining Coworkers' Trust		Appropriate Work Texting	
Reducing Harassment	Persevering		Understanding Copyright	
Respecting Diversity	Handling Criticism		Social Networking	
Making Truthfulness a Habit	Showing Professionalism			
Leaving a Job				

**1.6 Present a professional image through appearance, behavior and language.**

On-the-Job Etiquette	Person-to-Person Etiquette	Communication Etiquette	Presenting Yourself
Using Professional Manners	Meeting Business Acquaintances	Creating a Good Impression	Looking Professional
Introducing People	Meeting People for the First Time	Keeping Phone Calls Professional	Dressing for Success
Appropriate Dress	Showing Politeness	Proper Use of Work Email	Showing a Professional Attitude
Business Meal Functions		Proper Use of Cell Phone	Using Good Posture
Behavior at Work Parties		Proper Use in Texting	Presenting Yourself to Associates
Behavior at Conventions			Accepting Criticism
International Etiquette			Demonstrating Leadership
Cross-Cultural Etiquette			
Working in a Cubicle			



## Engineering & Technology

### Course Standard 3

#### STEM-FET-3

**Identify the history of technology and engineering and its impact on society in the past, present, and future.**

- 3.1 Describe the history and development of engineering.
- 3.2 Describe the social, economic, and environmental impacts of a technological process, product, or system.
- 3.3 Explain the influence of technology on history and the shaping of contemporary issues.
- 3.4 Describe the relationship between the STEM cluster and society.
- 3.5 Evaluate the impact of science and society based on products and processes used in the real world for technological development.
- 3.6 Understand STEM knowledge and skills to analyze and suggest solutions to human societal problems.
- 3.7 Apply STEM knowledge and skills through hands-on research and lab experiments that are focused upon recreating the inventions and social solutions that were realized in the past, present, and possible future.
- 3.8 Identify key people who have influenced technological change.
- 3.9 Describe the impact of governmental and political systems on technological innovations.
- 3.10 Demonstrate ethical and professional engineering behavior in the development and use of technology.

## Engineering Concepts

### Course Standard 10

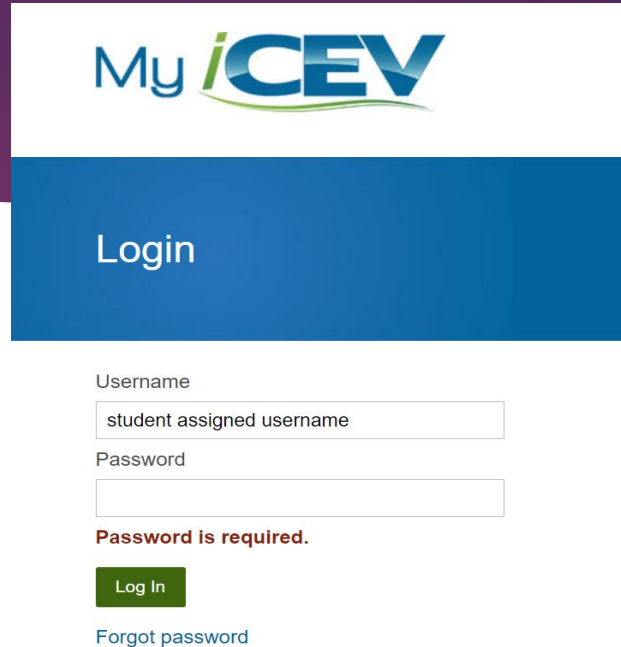
#### STEM-EC-10

**Explore the use of social media and other 21<sup>st</sup> century technologies and their impact(s) on the fields of engineering and technology.**

- 10.1 Demonstrate an understanding of the different types of social media utilized in market products.
- 10.2 Evaluate positive and appropriate utilization of social media in the workplace.
- 10.3 Employ open communication through social media applications as a medium across multiple platforms.
- 10.4 Investigate the impact(s) of various uses of social media (e.g., positive, negative, intended, unintended, etc.).
- 10.5 Explain aggregate data collected from researched social media platforms.



<https://www.icevonline.com/login>



The image shows a login form for My iCEV. At the top is the My iCEV logo. Below it is a blue rectangular button labeled "Login". Underneath the button are two input fields: "Username" with the placeholder text "student assigned username" and "Password". Below the password field is a red error message "Password is required." and a green "Log In" button. At the bottom is a blue link "Forgot password".

My iCEV

Login

Username  
student assigned username

Password

Password is required.

Log In

[Forgot password](#)

**All students should have access to the platform. This is a NEW platform. If you followed instructions on how to setup your account, you should enter your district student username, and district assigned password.  
You should see Welcome!**

**IF THIS DOES NOT WORK FOR YOU, SCHEDULE A ONE-ON-ONE SESSION ON THE BOOKINGS TAB ON MY TEACHER WEBPAGE.**

# Explore/Independent Work Week

## Essential Questions:

1. How does technology change workplaces?
2. How does technology change learning experiences?
3. What are some drawbacks of technology in work and study?

## Impact of Technology

### Lesson Plan

#### Class 1 (continued)

**Step 3:** Show the **Work & Study** video segment.



- This segment is six minutes long.
- Be sure students utilize the **Key Concepts** for this segment of the lesson.

**Step 4:** Administer the **Work & Study Check for Understanding**.



- The Check for Understanding is a short review of the content presented in the segment.

**Step 5:** Have students begin the **Technology Now & Then Project**.



- Students will research a case revealing how technology changed lives and present a discussion on the case in a panel.
- Students should continue working on this project for homework.

**Step 6:** **Exit Ticket:**



- Students should turn in their selected topic for the **Technology Now & Then Project**

1.3 Model work-readiness traits required for success in the workplace including integrity, honesty, ethics, accountability, punctuality, time management, and respect for diversity.

# Explore/Independent Work Week

## Class 2

### Class Overview:

- *Lifestyle & Communication* Video Segment
- Action Plan
- Key Concepts
- Lifestyle & Communication Check for Understanding
- Technology Now & Then Project

### Essential Questions:

1. How does technology change lifestyle?
2. How does technology change communication?
3. What are some drawbacks of technology in lifestyle and communication?

### Step 1: Bell Ringer:



- Students should answer the **Essential Questions**.

### Step 2: Show the *Lifestyle & Communication* video segment.



- This segment is six minutes long.
- Be sure students utilize the **Key Concepts** for this segment of the lesson.

### Step 3: Administer the *Lifestyle & Communication* Check for Understanding.



- The Check for Understanding is a short review of the content presented in the segment.

### Step 4: Students should continue working on the *Technology Now & then Project*.



- Students will research a case revealing how technology changed lives and present a discussion on the case in a panel.
- Students should continue working on this project for homework.

### Step 5: Exit Ticket:



- Have students reevaluate their answers to the **Essential Questions**, make any changes and turn in.

1.3 Model work-readiness traits required for success in the workplace including integrity, honesty, ethics, accountability, punctuality, time management, and respect for diversity.



# Explore/Independent Work Week

## Class 3

### Class Overview:

- *Economics & Environment* Video Segment
- Action Plan
- Key Concepts
- Economics & Environment Check for Understanding
- Technology Now & Then Project

### Essential Questions:

1. How does technology change economics?
2. How does technology change environment?
3. What are some drawbacks of technology in economics and environment?

### Step 1: Bell Ringer:



- Have students list three economic changes due to technology.

### Step 2: Show the *Economics & Environment* video segment.



- This segment is six minutes long.
- Be sure students utilize the **Key Concepts** for this segment of the lesson.

### Step 3: Administer the **Economics & Environment Check for Understanding**.



- The Check for Understanding is a short review of the content presented in the segment.

### Step 4: Students should continue working on the **Technology Now & then Project**.



- Students will research a case revealing how technology changed lives and present a discussion on the case in a panel.

### Step 5: Exit Ticket:



- Groups should provide a project update as they leave class.

1.3 Model work-readiness traits required for success in the workplace including integrity, honesty, ethics, accountability, punctuality, time management, and respect for diversity.

# Explore/Independent Work Week

## Class 4

### Class Overview:

- Action Plan
- Impact of Technology Final Assessment
- Technology Now & Then Project

### Step 1: Bell Ringer:



- Students should review for the assessment.

### Step 2: Administer the **Impact of Technology Final Assessment**.



- The Final Assessment is a comprehensive assessment covering material throughout the entire lesson

### Step 3: Students should share their **Technology Now & Then Projects**.



- The panel will discuss the topic as a group to the class and answer any questions.

### Step 4: Exit Ticket:



- Students should submit the project as instructed.



**NOTE:** If you see this icon, the item is available to be completed interactively on iCEV.

1.3 Model work-readiness traits required for success in the workplace including integrity, honesty, ethics, accountability, punctuality, time management, and respect for diversity.

# Assessments

## ***Assessments***

Check for Understanding I - Work & Study

Check for Understanding II - Lifestyle & Communication

Check for Understanding III - Economics & Environment



Final Assessment - Impact of Technology

## Technology Now & Then

Gather the answers to the following questions for the case that you chose to research.

1. What was the problem or what was the situation before the technology?
2. How does the new technology solve the problem or change the situation?
3. What does the future look like for this technology?



**NOTE:** If you see this icon, the item is available to be completed interactively on iCEV.

Common Standards practiced in this course still applies. Remember your **weekly performance grade reflects your demonstration** of these things both in the classroom as well as out. Please review the Employability Skill rubric.

### **Student Tips for Digital Learning Days**

- ✓ **Treat an online course like a “real” course.**
- ✓ **Hold yourself accountable**
- ✓ **Practice time management.**
- ✓ **Create a regular study space and stay organized.**
- ✓ **Eliminate distractions.**
- ✓ **It's okay to study with a friend.**

**USE LEARN AT HOME DAYS AND IN CLASS RECOVERY DAYS TO MAKE UP MISSING ASSIGNMENTS AND/OR TO ACHIEVE A BETTER GRADE ON ELIGIBLE MINOR ASSIGNMENTS.**