

# 2

## Workplace Skills

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### Objectives

Students will be able to:



- Create a Resume.
- Compare and contrast industry appropriate appearances with those that are inappropriate.
- Compare and contrast industry appropriate communication and actions with those that are inappropriate.
- Identify the importance of good time management skills.
- Collect technical information using the internet.
- Estimate the cost of a service using the internet.
- Analyze information and determine possible solutions.

### Orienting Questions

- ✓ What is a resume?
  - ✓ How do I write a Resume?
  - ✓ What is good time management?
  - ✓ How can I find technical information?
  - ✓ How much does a repair cost?
  - ✓ Why is appearance so important?
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*\*\*\*Closed Captions and transcripts are available for all videos in this module. Click the  button at the bottom right of the play menu to turn on closed captions in the language of your choice. You may also read a full transcript of the video by clicking the  bottom of the play menu. If the YouTube closed captioning is not accurate, there will be an indication that the transcript is attached at the end of the module. \*\*\*\**



A black arrow pointing to the right inside a lavender circle is the symbol used for activities, which are non-graded assignments.



A black arrow pointing to the right inside an orange circle is symbol for a graded assignment.



A black question mark in a lavender circle is the symbol for a practice test.



A black question mark in an orange circle is the symbol for a graded test.

**PRE-TEST**

Select the best answer.

1. A \_\_\_\_\_ is a document designed to highlight the education, skills and abilities of a job applicant.
  - A. Introduction
  - B. Resume
  - C. Letter of intent
  - D. Biography
2. Most automotive technicians are paid hourly for the work they complete.
  - A. True
  - B. False
3. Appearance and \_\_\_\_\_ are important qualities for automotive professionals.
  - A. Personal Hygiene
  - B. Tattoos
  - C. Body Piercings
  - D. Body Odor
4. Which is not an example of good time management?
  - A. Multi-tasking
  - B. Communication
  - C. Excessive Interruptions
  - D. Teamwork
5. Where can you find the least accurate automotive repair information?
  - A. Mitchell On Demand
  - B. Alldata
  - C. Google
  - D. Identifix

## INTRODUCTION

This module was created to prepare students for employment. The topics discussed in this module were not created to offend or discourage anyone or their originality. Most of the information in this module was provided by industry employers during mandatory student follow up questionnaires. This module was written to be direct and candid providing real life scenarios from employers. The goal of this module is to provide students with pre-employment information and suggestions, and does not guarantee employment. To hear this introduction, please click on the Video 1 image



Video 1 – Introduction (York Technical College, Public Domain)

For a transcript of this video, please click on [transcript](#).

For the embed code of this code, please click on [embed](#).

Image of man in front of a city view of roads

## 2.1 THE RESUME

This section is designed to explain the importance of a resume and to provide examples of resumes for your use. The goal of this section is for students to create a foundation resume for their program of choice.

### 2.1.1 THE IMPORTANCE OF A RESUME

A **resume** is a document designed to highlight the education, skills and abilities of a job applicant. A resume is typically a 1-2 page document

submitted with a cover sheet usually in attempt to secure employment. Resumes can be detailed documents, or streamlined to highlight a person's relative qualifications to a particular position. The length and content of a resume can vary but authors are highly advised to keep their information candid, and concise. A resume should be written with the goal of showcasing a person's particular strengths in relation to a target job or position. Basically it should be a document that makes an applicant out shine the other applicants for a certain employment opportunity. It is common for resumes to include keywords, and active verbs in attempt to highlight one's qualifications while at the same time attempting to flatter the employer. If you are wondering why you are learning about resumes in an introductory course, the answer is to create a foundation. Career experts recommend that people keep their resumes up to date even when they are not seeking employment. Essentially, resumes should be working documents starting with a foundation and updated regularly with details. The goal of this section is to assist you in creating a foundation resume, than can be updated as you progress through the program.

Before looking at two examples, please watch Video 2 which gives the importance of a resume from a student. To watch the video, please click on the Video 2 image.



Video 2 – Resume (York Technical College, CC – BY)  
For a transcript of this video, please click on [transcript](#).  
Image of a woman

### 2.1.2 EXAMPLE RESUMES

York Technical College has two types of resumes on their website. The two types are chronological and functional resumes. Let's begin by looking at these two examples. Examine the [chronological and functional resumes](#) (Link 1, YTC Career Services, Public Domain) What do you see as differences between these two resume types? Which one will best be suited to you? Depending on the type of career you are seeking, will depend on which type of resume you should use. Remember many college career services departments can help you with selecting the best resume for you and how to construct the resume.



#### ACTIVITY 1

Using the internet, and the examples above, create your own working resume, include you program of study, and indicate your estimated time of completion. For helpful tips use the following link:

<http://www.yorktech.com/CareerServices/Resume%20Hints.pdf>. (Link 2, York Technical College, Public Domain) Be sure to correct any spelling or grammatical errors in your resume draft. When completed have your resume edited by a career specialist. Turn a copy of your resume draft in for activity 1 and edited final resume in for the resume assignment.



#### ASSIGNMENT – FINAL RESUME

Turn in a copy of your final resume here, and complete the resume questions below.

Resume Questions:

1. Who edited your resume? List what your editor's qualifications are.
2. What changes did the editor advise you to make on you resume?
3. Do you think the requested changes have improved your resume? How?
4. Did you save a copy of this resume in your PC, or on a removable drive?

## 2.2 PERSONAL HYGEINE

Careers in the automotive industry involve constant interaction with people. Interactions may occur with customers, vendors, manufacturing representatives, insurance adjusters or fellow employees. For this fact it is imperative that employees maintain high standards of personal hygiene prior to arriving at work as well as throughout the work day. Good **personal hygiene** includes a clean appearance, fresh smelling breathe, lack of body odor, just to name a few. This section applies to all jobs in the industry but it is directed to those interesting in working as an automotive technician or in collision repair. This section was added to make students aware of some common misconceptions they may have about the industry. This information was not added to offend but rather inform people of what the industry expects.

Customers are the most important people you may come into contact with as they are the ones inevitably paying your salary. They are also the ones who stereotype the entire industry as dirty, dishonest, and unskilled. This very stereotype puts individuals interested in this field at a disadvantage before they even open their first hood. Another disadvantage that is self-inflicted is the notion that it is acceptable to appear unprofessional in the automotive industry. While it is arguable that some people embrace the alternative look, still the majority judge it negatively. Unfortunately in our society excessive tattoos, piercings, and improper dress signal trouble, and in most customer's minds equates to criminal. Technicians that appear or smell dirty are also judged similarly. You m understand new vehicle prices average \$28,500 and as they continue to climb customers become more particular on who performs their repairs. The customer of a \$70,000 truck with leather would cringe in disgust at the sight of a filthy technician, or one that looks like the gang member from the evening news as he or she drives their truck away.

Figure 1 might have an old slogan, but it is an important fact to remember.



Figure 1 – bpd\_y\_odor (Istoletv, CC – BY 2.0)

Image of a man pointing to slogan with a bar of Lifebuoy soap at the bottom of the picture.

Verbiage: The “Good Old Summer Time” would be better if everyone bathed with Lifebuoy every day. Stops “B.O” as no other leading soap can!

Traditionally a guy in a suit dealt with customers and the mechanic fixed the car. Those days are long gone because qualified individuals, hopefully you, are now technicians. This transition has occurred because technology has outpaced the typical salesman’s role of a service advisor and now requires a technician’s expertise to provide real time advice. Once again we apologize if this offends anyone but it is critical that you understand this industry has evolved tremendously. This evolution has forced mechanics who formally hid in the shadows to become technicians that are now the face of the business.

Figure 2 show how technicians now wear uniforms to help promote their cleanliness. This also helps to prevent getting grease on their personal clothing.





Figure 2 Grind (by Jonathon Stewart, CC BY – NC – ND 2.0)  
Image: Man using a grinder. He is wearing her personal protective gear as well as a uniform.

## 2.3 COMMUNICATION AND SOFT SKILLS

Communication and soft skills go hand-in-hand in the work place and are one of the keys to success. Most people ask, “What are soft skills”? **Soft skills** are a person’s level at which they work with other people effectively. For automotive technicians, **communication** (the ability to convey and receive information) is critical whether with parts suppliers, customers, management, or with others. Nearly as important as communication is one’s ability to interact with others. This area includes, but is not limited to, attitude, reasonability, expertise, and articulation. Technicians with the ability to interact well with others have a higher probability of success than those lacking these skills. It is really simple business if you are a good technician but lack the required soft skills to interact with people, the company must hire someone to fill in your deficits effectively lowering your salary. While blunt, this fact is absolute in the industry. Large companies have implemented soft skill screening processes during hiring as well as

screening processes for current employees. These screenings have been proven highly effective with measurable increases in their return on investment.

Figure 3 shows how a pit crew works as a team to change all the tires on the race car. Each person has their individual job, but must work as a team to be efficient. The goal is to not only change the tires, but to get the car back on the race track as quickly as possible.

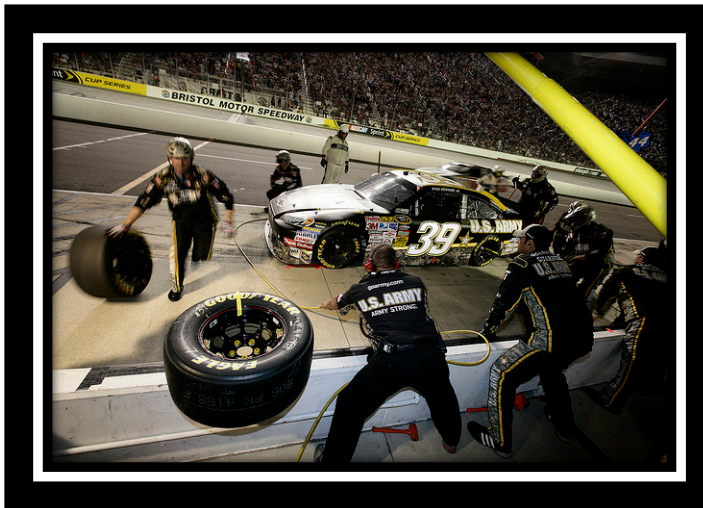


Figure 3 – Army Racing pit crew (The U.S. Army, CCBY 2.0)

Image: Racing crew working as a team to change tires on a race car during a race.

The automotive program at York Technical College uses several processes which are designed to improve both communication and soft skills. This process starts with the implementation of student teams with dedicated leaders during labs. The team concept promotes collaboration, and establishes a hierarchy to improve accountability. This process expands by requiring communication through discussions, during diagnosis, and with parts vendors. The hierarchy system among students creates a peer review process that, while at times blunt, proves to be more effective than instructor evaluations. Student groups are exposed to serious problems, difficult repairs, and at times harsh criticism. Many times this type of exposure results in conflict or disagreements that the students are required to resolve. This process is designed to prepare students for real world situations while refining their communication and soft skills. Finally students are assessed in their labs by a rubric based solely on soft skills and communication.

## 2.4 TIME MANAGEMENT

Automotive service and repair differs from many other industries because output and efficiency are difficult to measure. In manufacturing, output can be measured by daily or even hourly production. Due to uncontrollable variables automotive service is rarely, if ever, black and white. Because the industry operates mostly in the grey, production results fall heavily on the individual technician. With commission or flat rate, technicians' greed will increase productivity, but usually fails to meet deadlines or customer expectations. Technicians with good time management skills are able to be more productive and inevitably more profitable than those lacking the skills. Commonly good time management skills are confused with the speed at which a person completes a task. Basically they believe that fast equates to good time management which is totally incorrect. Good **time management** (the ability to use your time wisely and efficiently) begins with the ability to multi-task. Technicians must be able make a repair, while diagnosing another in their head, all the while staying mindful of the job to come. A technician must have the ability to navigate each day differently, evolving as situations arise, while remaining conscious of obligations.

Figure 4 helps us to remember that time management is not only starting tasks on time, but how you use the time.



Figure 4 – clock (Jonathon Stewart, CC BY – NC – ND 2.0)  
Image: Alarm Clock

**Time Management Tips:**

1. Multitasking
2. Control your interruptions
3. Navigation the uncontrollable
4. Develop your own system
5. Assemble a team
6. Adapting for delays
7. Effective Communication
8. Don't attempt the impossible

**2.5 ESTIMATING AND GATHERING INFORMATION**

As vehicles become more technologically advanced it becomes imperative that automotive technicians maintain strong product knowledge. Unfortunately with the sheer number of vehicles, models, and options, it is impossible for a person to know everything. To supplement their memory technicians must have the ability to research and gather information. In the past, repair shops would house a small library of books and reference manuals. Today this library has been replaced by computers and the internet. While this technology has freed up space in many shops it has opened another set of challenges for technicians. Finding information in vast digital archives can be nearly impossible and inefficient. Subscription services, such as Mitchell and All-data, have led the way in providing access to online information yet both have similar weaknesses. These mega services are packed with multiple terabytes of information but fail to provide a streamlined search function for access. Simple searches for information such as a firing order have become difficult tasks. This difficulty, forces users to use less accurate information quickly accessed on Bing or Google. Recently companies, such as Identifix, have entered the market providing quick access to commonly searched information with OEM service information as a back-up. While this program cannot provide the overall support of one of the mega services it can be a valuable supplement. Shops that provide technicians with fast, reliable sources of information will see increased productivity as the reluctant shops fall behind.

Information is critical to both the business and the technician for accuracy, but it is equally important for estimating. Incorrect information can lead to improper estimating and inevitably a loss of revenue. Most states have laws that require vehicle repairs to be within 10% of a quoted estimate. Failure to comply can result in a breach of trust and subject to legal penalties. As vehicle models

expand with different powertrains and options, parts will vary as well as becoming nearly vehicle or VIN specific. Due to this concern, repair facilities have become more reluctant to give quick estimates over the phone, and now are requiring the vehicle to be present and diagnosis performed before giving the estimate.

Video 3 was made in 2008 and gives the process of deciding how to make an estimate of car that needs some body repair. To watch the video, please click on the video 3 image.



Video 3 – How to: Car Repair: How to Estimate the Cost of Auto Body Repair  
(expertvillage, Standard YouTube License)

For a transcript of this video, please click on [transcript](#).

Image: Man in a car shop.



## ACTIVITY 2

1. Access the website of a retail parts company such as Autozone. Find the correct price for a starter that fits a 2001 Ford Taurus with a 3.0 V6 Engine. Note any issues that may arise.

2. Use the internet to find the firing order for a 5.7 liter 350 ci Chevrolet Engine
3. Use the internet to search for any issues with the transmission on a 2002 Honda Odyssey.
4. Use the internet to find the labor time required to replace an alternator on a 2013 Dodge Charger. If a shops labor rate is \$100 per hour, how much will it cost to install this part?
5. Use the internet to find a serpentine belt diagram for a 2004 Pontiac Grand Prix with a 3.8 liter engine. (paste your answer below)
6. Use the internet to see if there are any recalls on a 2009 Toyota Camry. (list two recalls by NHTSA Campaign #)

Record your answers in your journal. This is a non-graded activity.

## 2.6 PAY PLANS

Getting paid in the automotive Industry differs from nearly every other industry in the US. Although some jobs in the industry are hourly paid, the majority are based on some type of commission. In module one, we discovered that many jobs in the automotive industry required extended or retail hours. In numbers, this basically means that these jobs require work schedules that exceed 40 hours per week. Federal Law states that anyone that works over 40 hours must be paid time-and-a-half for any hours in excess. The automotive industry is one of only a few exceptions to this rule.

A **pay plan** is a method used to determine you pay for a day, week, month or year. The industry achieves overtime exemptions by using two different types of pay plans. The first plan used is a salary that includes a base pay plus commission. This plan meets exemption requirements because the base pay is figured by multiplying minimum wage by the expected number of weekly hours including overtime. This type of system is used for vehicle sales, parts sales, service advisors, as well as for management. Although this plan includes a base it is designed to promote higher sales by offering higher commissions. This pay plan when properly administered can be highly effective for the business and the employee. These plans can have fixed commission rates or variable rates factored by volume and/or other incentives. Below are examples of a fixed and variable rate pay plan. Use this formula to calculate each person's monthly salary: **Base + (Gross Sales \$ x Commission Rate %) = Total Salary**



**ACTIVITY 3: BASE SALARY PLUS FIXED RATE COMMISSION**

Sam earns a base salary of \$2150 plus 10% of his gross sales each month. This month Sam's gross sales totaled \$50,000. How much will Sam receive in gross pay this month?

**ACTIVITY 4 BASE PAY PLUS VARIABLE RATE COMMISSION**

Mary earns a base pay of \$2150 plus commission based off of the table below

<b>Level</b>	<b>Sales</b>	<b>Rate</b>
<i>Bronze</i>	>\$30000	5%
<i>Silver</i>	>\$50000	10%
<i>Gold</i>	>\$80000	15%

This month Mary's gross sales totaled \$48,000 which put her on the bronze commission level. Mary was disappointed with her month because she has hit the gold level three months in a row. How much will Mary receive in gross pay this month?

Figure 5 shows cash. Remember as you begin to earn wages, you need to determine which pay plan works best for you and seek employment in a shop that uses that pay plan.



Figure 3 – cash (Jonathon Stewart, CC BY – NC – ND 2.0)  
Image: a hand holding money with the top bill as a \$100 bill.

The second commonly used pay plan that is used in the automotive industry is called flat rate. This system is used as a pay plan for technicians as well as a billing guide for businesses. Flat rate is a system designed in collaboration with automotive manufacturers and industry specialists which provides a numerical value in time-to-tasks performed on a vehicle. The system was created to provide a universal guide for pricing labor on vehicle repairs. Flat rate pay scales take a set guide rate multiplied by an hourly rate to determine a technician's salary. The flat rate system is far from perfect, and at times appears to punish the customer or technician.



#### OPTIONAL – DISCUSSION PROMPT ACTIVITY/ASSIGNMENT

Review and analyze the two commission pay plans from activities 1 and 2. Assess the pros and cons of each plan. Discuss and explain which plan you think is better. Make sure that you consider the needs of both the business and the customer.



#### ASSIGNMENT - CASE STUDY

Review the two scenarios and answer the scenario questions. Complete the assignment by comparing and contrasting each scenario in the online discussion.

##### Scenario 1

Technician A is replacing the water pump on a truck. According to the labor guide this job requires 4.1 hours to diagnose and repair the concern. Technician A's salary is \$25.00 per flat rate hour. From start to finish this job took the technician 1.1 actual hours. The technician experienced no unexpected issues and after completing several of these jobs has become quite proficient. The vehicle owners have been patiently waiting for the repairs to be completed and are glad when after 1.5 hours their vehicle is ready. As the owners review the charges they notice that they were charged for 4.1 hours yet had only been at the shop for 1.5 hours. Although the flat rate system is thoroughly explained to the



vehicle owners by their service advisor they leave unhappy feeling they were overcharged.

What was Technician A's hourly rate for this job? Was there a winner or loser in this situation if so whom? Explain your rationale.

## Scenario 2

Technician B is installing a water pump on a small car. According to the labor guide this job requires 1.6 hours to diagnose and repair. Technician B's salary is \$30.00 per flat rate hour. Unfamiliar with this particular job the technician reviews the service manual for directions. The directions provide only general information regarding water pump replacement accompanied by a vague description of the vehicle. From start to finish this job took the technician 3.8 actual hours to complete. Knowing that arguing about the time with his manager was frivolous the technician took his loss and began another repair. The vehicle owner has been impatiently waiting complaining the job was taking longer than they were advised. While paying the bill the customer complained that this shop was expensive and very slow.

What was Technician B's hourly rate for this job? Was there a winner or loser in this situation if so whom? Explain your rationale.



### OPTIONAL DISCUSSION FOR CASE STUDY ACTIVITY/ASSIGNMENT

After reading both scenarios and considering the interests of both customer and technician, do you think the flat rate system is fair? Compare and contrast both scenarios with your fellow students. Explain your rationale and discuss at least two ways to resolve your concerns.

## 2.7 INTRODUCTION TO CRITICAL THINKING

**Critical Thinking**, by definition, is the study of clear and unclear thinking. The National Council for Excellence in Critical Thinking has an excellent definition for [critical thinking](#). (Link 3, National Council for Excellence in Critical Thinking, All rights reserved) In the work place the answers to questions or solutions to

problems rarely fall into the category of black and white. Decision making in the work place should be a strategic process that factors in all applicable outcomes both positive and negative that is analyzed at all levels. Traditionally only management handled this type of decision making or planning, but studies show this process is more effective if all employees practice this discipline. In business many brilliant ideas have failed simply because they never asked the employees if the idea was feasible or even practical. Companies that adopt critical thinking strategies promote collaboration amongst departments and employees effectively giving everyone a voice. This not only increases morale, but also boosts productivity and accountability of employees.

The building blocks of critical thinking begin early in the educational process. Educational processes designed to focus on the principles and theories of a problem, rather than just the solution, have proven to be highly successful in creating critical thinkers. As educators, we can reflect on assignments that involve critical or conceptual thinking that usually produce a student's best work. Critical thinking assignments are usually the most fun and interesting work that we do all year. York Technical College has a critical thinking process in place for students, employees, and management. The model incorporates a continuous improvement cycle with the process revolving. The York Technical College process goes as followed: Identify, Gather, Examine, Formulate, Apply, and Evaluate. This process is used school wide in development, planning, decision making, and throughout curriculum. The goal of adopting this policy is to improve decision making, and to produce more effective thinkers.

Figure 6 gives another way of thinking of critical thinking. Notice that not only are the steps listed on the left of the poster, but the verbs that aid in the step are listed to the right.

<b>CRITICAL THINKING SKILLS</b>				
<b>1</b> Knowledge  Identification and recall of information	define fill in the blank list identify	label locate match memorize	name recall spell	state tell underline
	Who _____? What _____? Where _____? When _____?		How _____? Describe _____? What is _____?	
<b>2</b> Comprehension  Organization and selection of facts and ideas	convert describe explain	interpret paraphrase put in order	restate retell in your own words rewrite	summarize trace translate
	Re-tell _____ in your own words. What is the main idea of _____?		What differences exist between _____? Can you write a brief outline?	
<b>3</b> Application  Use of facts, rules, and principles	apply compute conclude construct	demonstrate determine draw find out	give an example illustrate make operate	show solve state a rule or principle use
	How is _____ an example of _____? How is _____ related to _____? Why is _____ significant?		Do you know of another instance where _____? Could this have happened in _____?	
<b>4</b> Analysis  Separating a whole into component parts	analyze categorize classify compare	contrast debate deduct determine the factors	diagram differentiate dissect distinguish	examine infer specify
	What are the parts or features of _____? Classify _____ according to _____. Outline/diagram/web/map _____.		How does _____ compare/contrast with _____? What evidence can you present for _____?	
<b>5</b> Synthesis  Combining ideas to form a new whole	change combine compose construct create design	find an unusual way formulate generate invent originate plan	predict pretend produce rearrange reconstruct reorganize	revise suggest suppose visualize write
	What would you predict/infer from _____? What ideas can you add to _____? How would you create/design a new _____?		What solutions would you suggest for _____? What might happen if you combined _____ with _____?	
<b>6</b> Evaluation  Developing opinions, judgements, or decisions	appraise choose compare conclude	decide defend evaluate give your opinion	judge justify prioritize rank	rate select support value
	Do you agree that _____? Explain. What do you think about _____? What is most important?		Prioritize _____ according to _____? How would you decide about _____? What criteria would you use to assess _____?	

Figure 6 – Critical Thinking Skills (Enokson, CC BY – NC – ND 2.0)

Image: 6 steps on the left, with descriptions on the right

Step 1: Knowledge – Identification and recall of information (define, fill in the blank, list, identify, label, locate, match, memorize, name recall, spell, state, tell underline, Who \_\_\_\_, What \_\_\_\_, Where \_\_\_\_, When \_\_\_\_, How \_\_\_\_, Describe \_\_\_\_, What is \_\_?)

Step 2: Comprehension – Organization and selection of facts and ideas (convert, describe, explain, interpret, paraphrase, put in order, restate, retell in your own words, rewrite, summarize, trace, translate, Re-tell \_\_ in your own words, What is the main idea of \_\_? What differences exist between \_\_? Can you write a brief outline?)

Step 3: Application – Use of facts, rules, and principles (apply, compute, conclude, construct, demonstrate, determine, draw, find out, given an example, illustrate, make, operate, show, solve, state a rule or principle, use, How is \_\_ an example of \_\_?, How is \_\_ related to \_\_?, Why is \_\_ significant? Do you know of another instance where \_\_? Could this have happened in \_\_?)

Step 4: Analysis – Separating a whole into component parts (analyze, categorize, classify, compare, contrast, debate, deduct, determine the factors, diagram, differentiate, dissect, distinguish, examine, infer, specify, What are the parts or features of \_\_?, Classify \_\_ according to \_\_., Outline/diagram/web/map \_\_., How does \_\_ compare/contrast with \_\_?. What evidence can you present for \_\_?)

Step 5: Synthesis – Combining ideas to form a new whole (change, combine, compose, construct, create, design, find an unusual way, formulate, generate, invent, originate, plan, predict, pretend, produce, rearrange, reconstruct, reorganize, revise, suggest, suppose, visualize, write, What would you predict/infer from \_\_?, What ideas can you add to \_\_?, How would you create/design a new \_\_?, What solutions would you suggest for \_\_?, What might happen if you combined \_\_ with \_\_?)

Step 6: Evaluation – Developing opinions, judgements, or decisions (appraise, choose, compare, conclude, decide, defend, evaluate, give your opinion, judge, justify, prioritize, rank, rate, select, support, value, Do you agree that \_\_? Explain., What do you think about \_\_?, What is the most important?, Prioritize \_\_ according to \_\_?, How would you decide about \_\_?, What criteria would you use to assess \_\_?)

In the automotive repair industry each manufacturer has developed critical thinking processes to support their missions and to improve customer satisfaction. Ford Motor Company's "Symptom to System to Component" diagnostic process is one example of implementing critical thinking. In this process a technician narrows down a problem from a symptom or complaint, and then to a relevant system that is applicable to the complaint. Finally the user is led to a component that is the causal problem or failure. At York Technical College, the automotive department has modified the school's version of critical

thinking to a set of diagnostic steps which incorporate similar meanings. These steps include: verify the customer concern, perform preliminary inspections, diagnose the concern, perform pinpoint tests, estimate repairs, perform repairs, and retest. By adopting this strategy our department promoted critical thinking skills while at the same time improved customer satisfaction, and effectively produced better technicians from students.



### ASSIGNMENT - REASONING ANALYSIS

This module was designed to provide students with some “best practices” information regarding employment. Throughout the module students have been made aware of many common misconceptions about the industry. The sections on personal hygiene, appearance, soft skills, and time management were added basically to prepare technicians for a successful future. We are of the opinion that the technician of the future will be vastly different from current and past technicians. This opinion is based on the rate and level at which technological advancements occur in automotive technology.

For this assignment describe what you think the technician of the future will look like. (Feel free to write and/or draw in this assignment) What type of education may he or she need? What should he or she be good at? Watch 2-3 videos on YouTube about future automobiles or future automotive technology. Use the information given in the videos to reverse engineer your concept technician. Use the example Video 4 posted below to get started. To watch the video, please click on the Video 4 image.



Video 4 – Top 5 future car tech innovations (CNET, Standard YouTube License)

For a transcript of this video, please click on [transcript](#).

Image: Man. Verbiage: Future Car Tech Innovations

## KEY CONCEPTS - USE THESE IDEAS FOR STUDYING

- Writing a great working resume.
- How to look the part of a professional.
- How to best manage time.
- Getting started with estimating.
- Essentials of critical thinking
- Understanding automotive pay plans.

## KEY TERMS

- Communication
- Critical Thinking
- Pay Plan
- Personal Hygiene
- Resume
- Soft Skills
- Time Management

## GLOSSARY

- [Communication](#) – is the ability to convey and receive information
- [Critical Thinking](#) – is the study of clear and unclear thinking
- [Pay Plan](#) – is a method used to determine you pay for a day, week, month or year
- [Personal Hygiene](#) – a clean appearance, fresh smelling breathe, lack of body odor, just to name a few.
- [Soft Skills](#) – a person's level at which they work with other people effectively
- [Resume](#) – is a document designed to highlight the education, skills and abilities of a job applicant
- Time Management – is the ability to use your time wisely and efficiently



**POST TEST**

Select the best answer.

1. Proper resumes should be \_\_\_\_\_ pages in length.
  - A. 1-2
  - B. 1-4
  - C. 1-10
  - D. Unlimited
2. Resumes should include the follow items except:
  - A. Name
  - B. Education
  - C. Gang Affiliation
  - D. Employment History
3. Where can you find the least accurate automotive repair information
  - E. Mitchell On Demand
  - F. Alldata
  - G. Google
  - H. Identifix
4. Most automotive technicians are paid hourly for the work they complete.
  - C. True
  - D. False
5. Soft skills include all of the following except:
  - A. Interactions with others
  - B. Attitude
  - C. Articulation
  - D. Happiness
6. A \_\_\_\_\_ is a document designed to highlight the education, skills and abilities of a job applicant.
  - E. Introduction
  - F. Resume
  - G. Letter of intent
  - H. Biography
7. The Flat Rate pay system is the same as being paid hourly.
  - A. True
  - B. False

8. Which is not an example of good time management?
  - E. Multi-tasking
  - F. Communication
  - G. Excessive Interruptions
  - H. Teamwork
9. Which of the following items is not an example of the need for more professional technicians
  - A. Advancing Technologies
  - B. Price of Vehicles
  - C. NAFTA
  - D. Cost of Service
10. Automotive information can best be found using large libraries full of service manuals and information.
  - A. True
  - B. False
11. Resumes should be regularly updated even when you are not seeking employment.
  - A. True
  - B. False
12. Time management and speed of completion are considered to be the same thing.
  - A. True
  - B. False
13. Flat Rate Technicians earn overtime for which of the following?
  - A. Always
  - B. Never
  - C. Under 40 hours
  - D. Over 40 hours
14. What are three examples of good time management?
15. Name two popular types of resumes.



**ASSESSMENT SOLUTIONS****ANSWERS TO PRE-TEST**

1. B
2. B
3. A
4. C
5. C

**ANSWERS TO ACTIVITIES****ACTIVITY # 1**

Resume draft (non-graded assignment)

**ACTIVITY # 2**

Answers will vary among students. (non-graded assignment)

**ACTIVITY #3**

\$7150.00

**ACTIVITY #4**

\$4550.00



## ANSWERS TO ASSIGNMENTS

## ASSINGMENT 1 – FINAL RESUME

Criteria	Meets Expectations	Partially Meets Expectations	Does Not Meet Expectations	Total Points
<b>Contents areas of Resume</b>	Contains the following areas with information as outlined in the section:  Header, professional profile, Educational Experience, Work Experience  11 - 8 points	Contains 3 of the following areas with information as outlined in the section:  Header, professional profile, Educational Experience, Work Experience  7 – 3 points	Contains 0 - 2 of the following areas with information as outlined in the section:  Header, professional profile, Educational Experience, Work Experience  2 – 0 points	
<b>Format of Resume</b>	Format follows one of the two styles (chronological or functional) or the combination of the two styles; has a good use of bolding and italics; used Times New Roman or Arial font between 10pt and 12pt; provided on correct paper color  11 – 8 points	Format basically follows one of the two styles (chronological or functional) or the combination of the two styles but with 1 – 3 errors; has a marginally good use of bolding and italics; uses correct font size and style; provided on correct paper color  7 – 3 points	Does not follow one of the two styles (chronological or functional) or the combination of the two styles; or does follow style but with more than 3 errors; has a marginally good use of bolding and italics; uses correct font size and style; provided on correct paper color  1 – 2 points	
<b>Length of</b>	Resume is 1 – 2	Resume has only	Resume is more	

Criteria	Meets Expectations	Partially Meets Expectations	Does Not Meet Expectations	Total Points
<b>Resume</b>	pages with centering on page length 8 - 4 points	a couple lines on a second page or substantially less than 1 page in length 3 – 2 points	than two pages or substantially less than 1/2 page in length 1- 0 points	

## ASSIGNMENT 2 – CASE STUDY

In scenario 1 the technician's rate was  $\$102.50/1.1=\$93.18/\text{hour}$ . The technician appears to be the winner while the customer seems to lose. In reality the customer was treated fairly or by the book, and the technician is having a good day.

In scenario 2 the technician's rate was  $\$48.00/3.8=\$12.63/\text{hour}$ . Both parties appear to lose in this situation, in reality the customer was treated fairly, and the technician learned a costly lesson.

### Case Study - Rubric

Criteria	Meets Expectations	Partially Meets Expectations	Does not meet expectations
<b>Knowledge</b>	Student has a clear understanding of the topic (40-30)	Student exhibits some understanding of the topic (29-16)	Student shows little to no understanding of the topic (15-0)
<b>Analysis</b>	Student offers a concise rationale for their choices (40-30)	Student offers some rationale for their choices (29-16)	Student shows little to no rationale for their choices (15-0)
<b>Spelling and Grammar</b>	Sentences are coherent; grammar/spelling	Most sentences are coherent; few grammar/	Sentences are incoherent; numerous

Criteria	Meets Expectations	Partially Meets Expectations	Does not meet expectations
	errors are absent or rare (20-15)	spelling errors (14-6)	grammar/spelling errors (5-0)
<b>Comments:</b>			<b>Total Points:</b>

### ASSIGNMENT 3 – REASONING ANALYSIS

#### REASONING ANALYSIS - RUBRIC

Criteria	Meets Expectations	Partially Meets Expectations	Does not meet expectations
<b>Knowledge</b>	Student has a clear understanding of the topic (40-30)	Student exhibits some understanding of the topic (29-16)	Student shows little to no understanding of the topic (15-0)
<b>Analysis</b>	Student offers a concise rationale for their choices (40-30)	Student offers some rationale for their choices (29-16)	Student shows little to no rationale for their choices (15-0)
<b>Spelling and Grammar</b>	Sentences are coherent; grammar/spelling errors are absent or rare (20-15)	Most sentences are coherent; few grammar/spelling errors (14-6)	Sentences are incoherent; numerous grammar/spelling errors (5-0)

Criteria	Meets Expectations	Partially Meets Expectations	Does not meet expectations
Comments:			Total Points:



### OPTIONAL DISCUSSIONS ACTIVITY/ASSIGNMENT

The two optional discussions will have varying answers. However, the response can be graded by this rubric.

#### Discussion Rubric

Criteria	Meets Expectations	Partially Meets Expectations	Does not meet expectations
<b>Knowledge</b>	Student has a clear understanding of the topic (40-30)	Student exhibits some understanding of the topic (29-16)	Student shows little to no understanding of the topic (15-0)
<b>Analysis</b>	Student offers a concise rationale for their choices (40-30)	Student offers some rationale for their choices (29-16)	Student shows little to no rationale for their choices (15-0)
<b>Spelling and Grammar</b>	Sentences are coherent; grammar/spelling errors are absent or rare (20-15)	Most sentences are coherent; few grammar/spelling errors (14-6)	Sentences are incoherent; numerous grammar/spelling errors (5-0)

Criteria	Meets Expectations	Partially Meets Expectations	Does not meet expectations
Comments:			Total Points:



## POST TEST SOLUTIONS

1. A
2. C
3. C
4. B
5. D
6. B
7. B
8. C
9. C
10. B
11. A
12. B
13. B
14. Answers will vary. Examples should resemble the list below:
  - Multitasking
  - Control you interruptions
  - Navigation the uncontrollable
  - Develop your own system
  - Assemble a team
  - Adapting for delays
  - Effective Communication
  - Don't attempt the impossible
15. Functional and Chronological

## TRANSCRIPTS AND EMBED CODES

## VIDEO 1 – INTRODUCTION

This module was created to prepare students for employment. The topics discussed in this module were not created to offend or discourage anyone or

their originality. Most of the information in this module was provided by industry employers during mandatory student follow up questionnaires. This module was written to be direct and candid providing real life scenarios from employers. The goal of this module is to provide students with pre-employment information and suggestions, and does not guarantee employment.

#### VIDEO 1 – EMBED CODE

```
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#### VIDEO 2 – RESUME

Brittany, what is the importance of a resume?

A resume is important because it is basically your personal market brochure. It's gonna show your educational background, as well as your working skills. So it lets that prospective employer know what you can bring to the table and why you would be the best candidate.

Thank you.

### VIDEO 3 – HOW TO: CAR REPAIR: HOW TO ESTIMATE THE COST OF AUTO BODY REPAIR

The most important thing that you want, are proper repairs. Proper repairs are dependent upon proper estimation and a proper estimation is depended upon a proper evaluation. In order to get that, you have to do tear down of the vehicle. This one has been especially prepared for it as you can see [bumper falls off car] but you have to take it apart. When you have the vehicle apart, all of a sudden you can see the hidden damages.

Here is an example of fiber glass. A fiber glass front panel and a steel structure behind, that so you have the combination of the two materials.

In order to get a true evaluation, you need to determine if the vehicle is shifted. If there is any frame damage across both the diagonal and horizontal planes. The best way to do that is with a tape measure and you find two equal points on both sides like hood hinge bolts and you do it diagonal in both directions. They should be equal and if they are not, obviously the body has been shifted. That will give you a good indication.

Also in heavier hitch, you want to measure from the center of the wheel to the center of the wheel. That will tell you if there is any distortion of your actual drive ability pattern.

One thing that is important to mention is the economics. The show is not about economics but someone has to pay for this damage and in order to do that, it's usually at an insurance company. They have to agree to what has to be replaced and what has to be repaired. Someone makes that decision and it may not necessarily be you, the car owner.

So, once the economics are in place, the parts are ordered, when you tear it down, keep all your clips, everything, little screws, bolts put them all in a pan so that they are all together. Once you have it torn down, once you have it estimated, then you go into frame repairs.

### VIDEO 4 – TOP 5 FUTURE CAR TECH INNOVATIONS

CNet On Cars

Top 5 future car tech innovations.



After people stop their heads from spinning from all the technology in cars today, they often ask me what is coming next. That's when I give them a long look and decide if they can handle the truth. I think you can. I'm Brian Cooley with my top 5 future car tech innovations. Not a bunch of sci-fi, but this is tech that is the next revolution, and just about to go big. I'm going to rank these in order of imminence.

Number 5 – Bio monitoring. From the Fords EO concept we saw recently that can tell if you are having a health crisis to possible new federal regulations that might passive alcohol detectors in all new cars, are vehicles are getting their hands all over us toward the goal of safer driving. But you know one day it is gonna to tell you that your fattening ass is killing its fuel economy. And then next big car tech trend begins vehicicide [car window broken].

Number 4 – Partial Autonomy. That means partial driving. The road to self-driving cars goes through the valley of semi-self-driving cars first. Today, already, well equipped Volvos and Infinities can roughly 70% drive themselves under many conditions, but Cadillac is going to press the matter soon with something it calls super cruise control; automating the accelerator, the brakes, steering, lane maintenance, and adaptive cruise control. There's not much left for you to do except for remain liable if the whole thing chokes.

Number 3 – LCD Instrument Panels – let's face it, dial gauges in the dash today are about as up-to-date as lederhosen is in the board room. Jags and Land rovers were among the first main stream cars to go all LCD with their instruments, but are out of the reach of for most of us pricewise. But, today when I stroll the car shows and I see the Chevy Spark EV or the New Cadillac CTS with gauge-less instruments, the race is on to dial out the dials.

Number 2 is apps. Now cars with connected apps were exotic literally just twelve months ago. Now it actually causes doubting murmurs at a car show when a new model is introduced without 'em. Kia Sole, Ford Fiesta, Preis C, thy names spell apps and not in rarified air. This is becoming standard equipment.

But the Number One next big car tech innovation is Natural Voice Command. That's right, one day voice commanding cars will actually work. Car makers seem to know their car systems are pretty lame compared to smartphones and they're making new strides. Not just because they love you by-the-way, but also 'cause they want to keep the feds off their back, and great voice command will help manage distraction. Take a look at BMW's I-drive 4.2 using an amazing

version of Dragon Drive, Chevy and Honda first, with an apple Siri button on the steering wheel. All of this gets just real close to just plain talking to your car without that weird stilted grammar you have to look up in the owner's manual. The more natural the conversation, the lower the cognitive distraction. I make this one number one because it makes almost everything else in the car better and safer.

Stay on top of high tech cars and modern driving with the only show that's devoted to strictly that. Cnet on cars at [cnetoncars.com](http://cnetoncars.com). I'm Brian Cooley. Thanks for watching.

## ATTRIBUTION TABLE

Link	Author/s	Title	Source	License
Video 1	York Technical College	Introduction	<a href="http://www.voki.com/pickup.php?scid=11614430&amp;height=267&amp;width=200">http://www.voki.com/pickup.php?scid=11614430&amp;height=267&amp;width=200</a>	Public Domain
Video 2	York Technical College	Resume	<a href="https://youtu.be/m7xjLOIPJjo">https://youtu.be/m7xjLOIPJjo</a>	Creative Commons – Attribution (CC – BY)
Link 1	York Technical College	Chronological and Functional Resumes	<a href="http://www.yorktech.com/CareerServices/Resume%20Samples.pdf">http://www.yorktech.com/CareerServices/Resume%20Samples.pdf</a>	Public Domain
Link 2	York Technical College	Resume Hints	<a href="http://www.yorktech.com/CareerServices/Resume%20Hints.pdf">http://www.yorktech.com/CareerServices/Resume%20Hints.pdf</a>	Public Domain
Figure 1	Istoletv January 7, 2006	Body_odor	<a href="https://www.flickr.com/photos/istoletv/121857075/in/photolist-bLxS4-s8odwJ-W5bnF-6ZLXjq-34Ydj3-b9xbe4-">https://www.flickr.com/photos/istoletv/121857075/in/photolist-bLxS4-s8odwJ-W5bnF-6ZLXjq-34Ydj3-b9xbe4-</a>	Creative Commons – Attribution Generic 2.0 (CC – BY 2.0)

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Figure 2	Johnathon Stewart August 6, 2014	Grind	<a href="https://www.flickr.com/photos/125390477@N05/14660159690/in/photostream/">https://www.flickr.com/photos/125390477@N05/14660159690/in/photostream/</a>	Creative Commons – NonCommercial – NoDerivs 2.0 Generic (CC BY – NC – ND 2.0)
Figure 3	The U.S. Army	Army Racing pit stop	<a href="https://www.flickr.com/photos/soldiersmedia">https://www.flickr.com/photos/soldiersmedia</a>	Creative Commons – Attribution 2.0

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Figure 4	Jonathon Stewart	Clock	<a href="https://www.flickr.com/photos/125390477@">https://www.flickr.com/photos/125390477@</a>	Creative Commons – NonCommercial –

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Video 3	Expertvillage February 25, 2008	How to: Car Repair: How to Estimate the Cost of Auto Body Repair	<a href="https://www.youtube.com/watch?v=7r_d4fMNQE8">https://www.youtube.com/watch?v=7r_d4fMNQE8</a>	Standard YouTube License
Figure 5	Jonathon Stewart December 9, 2014	Cash	<a href="https://www.flickr.com/photos/125390477@N05/15985306131/in/photostream/">https://www.flickr.com/photos/125390477@N05/15985306131/in/photostream/</a>	Creative Commons – NonCommercial – NoDerivs 2.0 Generic (CC BY – NC – ND 2.0)
Link 3	National Council for Excellence in Critical Thinking	Defining Critical Thinking	<a href="http://www.criticalthinking.org/pages/defining-critical-thinking/410">http://www.criticalthinking.org/pages/defining-critical-thinking/410</a>	All Rights Reserved
Figure 6	Enokson May 4, 2010	Critical Thinking Skills	<a href="https://www.flickr.com/photos/vblibrary/4576825411/in/photolist-7YrqJX-9id921-fiDzZh-bbg6g-HFdvF-cymmyj-3Gpbfr-bUBW9U-54Y3TV-7AfMeH-5LDsTX-uGwFy-9qUAup-8rADJk-gC59F-xntUr-bubXVG-4utAQK-">https://www.flickr.com/photos/vblibrary/4576825411/in/photolist-7YrqJX-9id921-fiDzZh-bbg6g-HFdvF-cymmyj-3Gpbfr-bUBW9U-54Y3TV-7AfMeH-5LDsTX-uGwFy-9qUAup-8rADJk-gC59F-xntUr-bubXVG-4utAQK-</a>	Creative Commons – NonCommercial – NoDerivs 2.0 Generic (CC BY – NC – ND 2.0)

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