**METALWORKING I**

**COURSE OUTLINE**

* **WEEK # 1 - COURSE INTRO**
  + COURSE GUIDELINES, SYLLABUS, CLASS PROCEDURES, SAFETY RELEASE
    - HANDOUT – FIRE SAFETY
    - HANDOUT – GRINDER SAFETY
    - GENERAL TOOLS POWER POINT
    - DEMO OF GRINDER/WIRE WHEEL
    - FIRE DRILL
    - BINDER POLICY, HOMEWORK POLICY, CLEAN UP BOARDS.
  + TOOLS, THREADS AND BOLTS, DRILLING.
    - HAND TOOLS PACKET, DEMO OF TOOLS
    - HANDOUT ASSIGNMENT PACKET ON THREADS
      * STAMPING NAME IN PROJECTS
      * USING A VISE
* **WEEK # 2 LAYOUT AND MEASUREMENT**
  + BASIC LAYOUT RULES HANDOUT.
  + RULER EXPLAINATION AND PRACTICE
  + LAYOUT ASSIGNMENTS
    - DRILL PLATE
    - TOOL TRAY
* **WEEK #3 OXY ACETELYNE NOTES WELDING/CUTTING**
  + WRITTEN NOTES PGS. 1-4
    - SET UP/ OXY SAFETY PAGE
    - FIVE STEPS TO LIGHT AND SHUT DOWN THE TORCH
    - OXY WELDING DVD THROUGH SET UP
    - DEMO – STUDENTS LIGHT THE TORCH
    - **FINISH NOTES 5-9**
    - OXY WELDING DVD FINISHES
    - REVIEW OF TEST
    - OXY TEST
    - DEMO – OXY WELDING PROJECT
      * **WEEK # 4 ARC WELDING NOTES/ FORGE USE**
  + WRITTEN NOTES PGS 1-3
    - ARC WELDING SAFETY PAGE
    - NOTES THROUGH POLARITY
    - ARC WELDING DVD THROUGH SET UP
    - DEMO – MACHINE SET UP AND STRIKING THE TORCH
    - **NOTES FINISH 4-7**
    - ARC WELDING DVD THROUGH WELDS
    - REVIEW ARC WELDING TEST
    - ARC WELDING TEST
    - DEMO - ARC WELDING PROJECT
  + FORGE AND ANVIL DEMOS
* **WEEK # 5 SHEET METAL AND TORCH CUTTING**
  + HAND OUT NOTES PGS. 1-2 ON SHEET METAL
    - DEMO – SHEET METAL EQUIPMENT AND HAND TOOLS
    - REVIEW FOR TEST
    - SHEET METAL TEST
* **WEEK # 6 START IN LAB**
  + ESSAY TOPIC #1:
    - DESCRIBE THE IMPORTANCE OF WEARING SAFETY GLASSES AND FACE SHIELDS WHEN WORKING IN THE SHOP. DO GLASSES HAVE TO BE WORN WHEN WORKING WITH ANYTHING OTHER THAN BOOKWORK? WHY?
  + VOCAB #1
  + DAILY MATH
  + SHOP CLEAN UP TRIAL
  + SEPARATE INTO GROUP AREAS
    - GROUP 1 IN OXY WELDING
    - GROUP 2 IN SHEETMETAL
    - GROUP 3 IN OXY CUTTING
    - GROUP 4 IN ARC WELDING
    - GROUP 5 IN FORGE
* **WEEK # 7 HANDOUTS LAB** 
  + RULER WORKSHEET # 2
  + DAILY MATH
* **WEEK # 8 HANDOUTS LAB PROJECT DUE/ROTATE GROUPS** 
  + ESSAY TOPIC # 2:
    - LIST AND THEN DESCRIBE IN PARAGRAPH FORM THE BASIC DIFFERENCES BETWEEN THE OXY-ACETYLENE AND ARC WELDING PROCESSES. INCLUDE SUCH ISSUES AS SAFETY, FILLER METALS AND HEAT SOURCES.
  + VOCAB #2
  + DAILY MATH
* **WEEK # 9 HANDOUTS LAB**
  + DAILY MATH
* **WEEK # 10 HANDOUTS LAB PROJECT DUE /ROTATE GROUPS** 
  + ESSAY TOPIC # 3:
    - PUSHING, SHOVING AND GENERAL HORSEPLAY IS NOT ALLOWED IN OUR SHOP. WHY IS THIS? IS THIS ROOM DIFFERENT FROM OTHER CLASSES? HOW?
  + DAILY MATH
* **WEEK # 11 HANDOUTS LAB**
  + RULER WORKSHEET # 3
  + DAILY MATH
* **WEEK # 12 HANDOUTS LAB** 
  + ESSAY TOPIC # 4:
    - LIST 35 VALID SAFETY CONCERNS IN THIS PARTICULAR SHOP.
  + VOCAB #3
  + DAILY MATH
* **WEEK # 13 HANDOUTS LAB PROJECT DUE/ROTATE GROUPS**
  + ESSAY TOPIC # 5:
    - WHEN WORKING AROUND FLAMES OR SPARKS WHAT SAFETY PRECAUTIONS SHOULD BE TAKEN? DISCUSS PERSONAL SAFETY SUCH AS CLOTHING AS WELL AS SHOP SAFETY CONCERNING THE AREA AND EQUIPMENT IN THAT AREA.
  + DAILY MATH
* **WEEK #14 HANDOUTS LAB**
  + ESSAY TOPIC # 6:
    - A CLEAN SHOP IS NOT ONLY PLEASING TO THE EYE BUT IS ALSO A VERY IMPORTANT PART OF SHOP SAFETY. DESCRIBE HOW THE CLEANLINESS OF OUR SHOP CAN RELATE TO IT’S SAFETY.
  + INTRODUCTION TO THE GMAW PROCESS
  + DAILY MATH
* **WEEK # 15 HANDOUTS LAB PROJECT DUE/ROTATE GROUPS** 
  + ESSAY TOPIC # 7:
    - SHEET METAL WORK PROVIDES DIFFERENT SAFETY HAZARDS THAN WELDING PROCEDURES. LIST THE MAIN PIECES OF SHEET METAL EQUIPMENT THAT WE USE BY NAME AND THEN DESCRIBE SOME SAFETY ISSUES THAT RELATE TO EACH.
  + INTRODUCTION TO THE GTAW PROCESS
  + DAILY MATH
* **WEEK # 16 HANDOUTS LAB** 
  + ESSAY TOPIC # 8:
    - TELL ME HOW THIS CLASS HAS CHANGED OR AFFECTED YOUR OUTLOOK ON LIFE SKILLS. DO YOU THINK THAT YOU WILL USE THESE SKILLS IN YOUR PERSONAL LIFE ONE DAY WHETHER AT HOME OR IN A CAREER? DID THE CLASS IMPROVE YOUR GENERAL MATH SKILLS OR UNDERSTANDING? WHAT WERE HIGHLIGHTS OF THE COURSE FOR YOU?
  + FILL IN THE RULER SCALE 32NDS
  + INTRODUCTION TO THE METAL LATHE
  + DAILY MATH
* **WEEK # 17 REVIEW ALL PROJECTS DUE**
  + REVIEW ALL NOTES
  + NOTEBOOK CHECK
  + CLEAN SHOP
  + VOCAB #4
* **WEEK # 18 FINAL**