Weld 40 Basic Electric Arc Welding 2 Units **Course Number: 42332 / VOC 42948**
Mt. San Antonio College Spring 2023 Saturday 8:15am to 12:35pm
69-21

Instructor Contact Information:

John Kuchta	*Office Phone:* *(909)594-5611 x5465* *Email address:* ***jkuchta@mtsac.edu*** *Cell:* *(626)378-4684 (Text only)*	
Office: 69-10B	Office Hours: Monday, Wednesday, Thursday, Friday: 12PM-1:00PM	

Course Description:
Fundamentals of welding process related to the areas of construction, machine tool, aerospace, and transportation.

Student Learning Outcomes:

- Demonstrate the use of Oxy-acetylene welding (OAW),Shielded Metal Arc Welding (SMAW), Gas Metal Arc Welding(GMAW),Gas Tungsten Arc Welding (GTAW),Flux Cored Arc Welding (FCAW), Plasma Arc Cutting (PAC),Carbon Arc Cutting(CAC) principles to join and cut metals.
- Incorporate safety practices into all welding activities
- Recognize and describe common welding processes used in bonding metals
- Students will be able to successfully identify and differentiate between various welding processes presented in the class.
- Students will be able to effectively operate the equipment for various welding processes.

Textbook:
Welding Principles and Applications, 9th Edition, by Larry Jeffus. Cengage Publishers, 2021.

Personal Safety Equipment:
You will be required to provide your own eye protection (safety glasses) and welding gloves. The college provides welding helmets and cutting goggles and leather protective clothing. However, if you are planning on working as a welder, it might be helpful to consider purchasing these items for yourself.

Additional Equipment:
In addition to the personal safety equipment listed above, you may need to purchase a complete set of #20 Tig torch parts, consisting of:

- 3/32 collet and collet body
- #6 OR #8 Cup
- 3/32 Blue (2% Lanthanated) Tungsten
- 1 Backcap

These parts will be needed for the GTAW welding projects, which will start on or about class #10

Search Program/Discipline | Search Course

Search Courses

Search Courses

- Arson and Fire Investigation (FIRE 10)
- Basic Fire Academy (FIRE 86)
- Building Construction for Fire Protection (FIRE 4)
- Fire Apparatus and Equipment (FIRE 11)
- Fire Behavior and Combustion (FIRE 5)
- Fire Company Organization and Management (FIRE 8)
- Fire Fighting Tactics and Strategy (FIRE 7)
- Fire Hydraulics (FIRE 9)
- Fire Prevention Technology (FIRE 2)
- Fire Protection Equipment and Systems (FIRE 3)

1 2 3 ...

Student Learning Outcomes

Course Name: Introduction to Welding
Course Number: WELD 40
Course Objectives:

- Students will be able to effectively operate the equipment for various welding processes. (SLO)
- students will be able to effectively operate the equipment for various welding processes .
- Completers will be able to successfully identify and differentiate between various welding processes presented in the class.
- Define terms and conditions related to the welding industry. (MO)
- Identify the cost effectiveness of each welding process. (MO)
- Recognize and illustrate basic metallurgy related to the welding trades. (MO)
- Incorporate safety practices into all welding activities. (MO)
- Recognize and describe common welding processes used in bonding metals. (MO)
- Demonstrate the use of Oxy-acetylene welding (OAW),Shielded Metal Arc Welding (SMAW), Gas Metal Arc Welding(GMAW),Gas Tungsten Arc Welding (GTAW),Flux Cored Arc Welding (FCAW), Plasma Arc Cutting (PAC),Carbon Arc Cutting(CAC) principles to join and cut metals. (MO)
- Discuss the different base metal compositions used to make metallurgical bonds. (MO)
- Completers will be able to successfully identify and differentiate between various welding processes presented in the class. (SLO)

Mt. San Antonio College – Spring 2023

MEDI 90 Medical Terminology

Course Information

Instructor Information:

Nichol Graffeo, BSRC, RRT, RCP, RRT-ACCS, RPFT, RRT-NPS, AE-C, FCCS, ACUE

Office hours: Virtual office hours every Tuesday, 9:00 am – 10:00 am and Thursdays 3:00-3:30 pm via Zoom (Link in Canvas under "TechConnect Zoom"). Week 14 hours will be on Friday from 3:00-3:30 pm. Weeks 8 and 16 Thursday office hours will include an additional 30 minutes for any questions or help before the midterm and final exams, from 3:00-4:00 pm.

Office hours are NOT MANDATORY! I'm here if you need me.

Contact Information: I am here for all of your questions and concerns. All email correspondence must be sent directly in Canvas via the "Inbox" tool. Only if Canvas is down, you can email me at ngraffeo@mtsac.edu.

Course Description:

This course is an introduction to the use and meaning of medical terminology used in various allied health fields. There are no prerequisites for this course. (3.0 units)

This is a completely ONLINE course and no part of it will be conducted on campus.

CRNs: 40266/40269/40270, Distance Learning - online

Course Objectives:

Below is a list of specific skills this course is designed to guide you towards obtaining. Each assignment you complete in this course will contribute to your growth towards meeting these goals.

After actively participating in this course, the student will be able to:

1. Construct sentences using medical terms to diagnose medical conditions.
2. Determine word meaning by interpretation of prefixes, suffixes and/or word roots.
3. Interpret medical terms for a broad range of body systems and medical conditions.
4. Create medical terms with desired meanings by choosing correct prefixes, suffixes, and/or word roots.
5. Learn the rules for building and understanding elements and terms
6. Correctly pronounce medical terms.
7. Learn various abbreviations, pharmacologic, diagnostic and therapeutic terms related to each body system.
8. Distinguish correct from incorrect spelling of medical terms
9. Define medical terms to identify pathological conditions in patients
10. Differentiate between terms that sound similar and have similar spellings to translate them correctly.

Student Learning Outcomes:

Student Learning Outcomes (SLOs) describe the knowledge, skills, and understanding we hope you will gain through this course. These are established as part of our official Course Outline, and guide our activity, assignments, and discussion. Upon successful completion of the course, students will:

1. Recognize and use medical terms in clinical application

Search Program/Discipline | Search Course

Search Courses

Search Courses

- Arson and Fire Investigation (FIRE 10)
- Basic Fire Academy (FIRE 86)
- Building Construction for Fire Protection (FIRE 4)
- Fire Apparatus and Equipment (FIRE 11)
- Fire Behavior and Combustion (FIRE 5)
- Fire Company Organization and Management (FIRE 8)
- Fire Fighting Tactics and Strategy (FIRE 7)
- Fire Hydraulics (FIRE 9)
- Fire Prevention Technology (FIRE 2)
- Fire Protection Equipment and Systems (FIRE 3)

Student Learning Outcomes

Course Name: Medical Terminology
Course Number: MEDI 90
Course Objectives:

- Students will be able to distinguish correct from incorrect spelling of medical terms
- MO: Interpret medical terms for a broad range of body systems and medical conditions.
- Students will be able to recognize and use medical terms in a clinical application
- MO: Determine word meaning by interpretation of prefixes, suffixes and/or word roots.
- MO: Construct sentences using medical terms to diagnose medical conditions.

Tuesday & Thursday 9—11:05 am
Building 67A Room 138

Winter 2023
CRN 32009

RESD 108
Pharmacology for Respiratory Care

COURSE DESCRIPTION

Commonly used respiratory care drugs with emphasis on dosage, indications, contraindications, adverse reactions, and expected outcomes will be discussed.

COURSE OBJECTIVES

1. Define key terms pertaining to the principles of drug action.
2. State the indications for each of the major aerosolized drug groups.
3. Describe the therapeutic purpose of each major aerosolized drug groups
4. Calculate drug dosages.
5. Compare and contrast the parasympathetic and sympathetic branches of the nervous system.
6. Apply drug therapy techniques.

STUDENT LEARNING OUTCOMES

1. Given a patient scenario, the student will determine the appropriate drug therapy.
2. The student will articulate the difference between the parasympathetic and sympathetic nervous branches of the nervous system.

INSTRUCTOR

Kelly Coreas MSHS, RCP, RRT, RRT-NPS
Office: Building 67A Room 139—face masks requested
E-mail: kcoreas@mtsac.edu
Phone: 909-274-4721
Office Hours:
Monday 11:00 am—12:00 pm
Tuesday 11:05 am— 12:35 pm
Thursday 11:05 am— 12:35 pm

REQUIRED MATERIALS

1. A simple, silent, 4 function calculator
2. Colbert and Gonzalez. Integrated Cardiopulmonary Pharmacology with Lab Book^{Plus}. 6th Ed.
   Join Code: J69E7D

Search Program/Discipline | Search Course

Search Courses

Search Courses

- Arson and Fire Investigation (FIRE 10)
- Basic Fire Academy (FIRE 86)
- Building Construction for Fire Protection (FIRE 4)
- Fire Apparatus and Equipment (FIRE 11)
- Fire Behavior and Combustion (FIRE 5)
- Fire Company Organization and Management (FIRE 8)
- Fire Fighting Tactics and Strategy (FIRE 7)
- Fire Hydraulics (FIRE 9)

Student Learning Outcomes

Course Name: Pharmacology for Respiratory Care
Course Number: RESD 108
Course Objectives:

- MO: Compare and contrast the parasympathetic and sympathetic branches of the nervous system.
- MO: Apply drug therapy techniques.
- MO: Define key terms pertaining to the principles of drug action.
- MO: State the indications for each of the major aerosolized drug groups.
- MO: Describe the therapeutic purpose of each major aerosolized drug groups.
- MO: Calculate drug dosages.
- The student will articulate the difference between the parasympathetic and sympathetic branches of the nervous system.
- Given a patient scenario, the student will determine appropriate drug therapy.

MT. SAN ANTONIO COLLEGE
ELEC 50A - Electronic Circuits (DC)
Syllabus – Spring 2023
CRN 40853 (credit) and 42917 (non-credit)

Instructor: Joe Denny

Email: Please contact via Canvas Inbox
jdenny1@mtsac.edu (as a secondary contact)

Phone: (909) 764-8890 (Google Voice Number – This number can be texted too) (909) 274-4976 (office)

Office: Bldg 28B RM 402-A

Office Hours:
Mondays 1:35pm – 3:35pm; Rm 402A
Tuesdays 1:30pm – 3:00pm; Dept Chair Office hour
Wednesdays 2:00pm – 3:00pm; Virtual*
Thursdays 4:00pm – 5:00pm; Virtual*
*To reach instructor virtually, please first call the google voice number above. Then we can hop on zoom to chat if you prefer. The zoom site we will meet at is: https://bit.ly/joeszoom Instructor will be available by appointment for zoom chat or phone calls throughout the week besides the synchronous office hour above. Please contact instructor for this. Instructor will respond within 48 hours M-F.

In-person lab help: Due to the nature of this course, you may wish to seek in person assistance by completing some labs on campus. If at any point in this course you wish to complete labs on campus, there are a variety of options.

1. Come to room 312 on Mondays 8am – 3:30pm or room 402-A Tuesdays from 1:30pm – 3pm. (Make sure to bring your equipment). I have another lab course going on at this time, but can help you sporadically. Please let me know the day before if you plan to do this.
2. There are other sections of this course offered in person throughout the week, and often the instructors of those courses are willing to have you if you ask ahead of time.
3. The TERC also has the former Electronics student tutors who can help you. See TERC Tutors below.

TERC Tutors: For FREE tutoring, please visit the Tech Ed Resource Center (TERC) at:
https://www.mtsac.edu/tech-health/terc/
At that link you will find information on how to receive free tutoring. The TERC has a dedicated Electronics student tutor that can help you in person as well as lab equipment to use.

Time/Location: Online Course, asynchronous. There will not be any specific times students will need to meet online.

Required Materials:

1. **Elec 50A/B parts kit** (The parts kit is necessary for all laboratory exercises.)
   Purchase the parts kit through Day-n-Nite Bookstore at 20268 E. Carrey Rd. Walnut, CA. 91789 (The Campus book store should have them too, but they may be a little more expensive.)
2. **Sharp Calculator:** EL-W516TBSL or EL-W516XBSL
   The campus bookstore AND Amazon sells this calculator. (Day n Nite does not sell this)
3. **Two D batteries and two 9V batteries.** (The cheap ones from Dollar Tree will due)
4. **Lab Equipment:** You will need to schedule a time to come to campus to borrow lab equipment. Please go to the following website to schedule your appointment:
   https://appt.link/mtsac-electronics/equipment-pickup-return
   After you schedule your time slot, you will immediately receive an email with instructions for where to go to pick up the equipment and other pertinent info. If you do not get this email, PLEASE CHECK YOUR JUNK MAIL.
5. The ability to take pictures and upload them to Canvas

IMPORTANT: If you have not picked up the lab equipment by the end of the first week of class, you will be dropped.

Recommended Material: **Textbook**: Stephen C. Harsany, Fundamentals of Electronics: DC Circuits (any Edition past the 4th is fine)

Lecture and Lab Videos: https://www.3cmediasolutions.org/f/66f0c806d6cbdadfde08c4161047c526ca179a26
An option to download each video is in the link above

Important Dates:

Last date to Add Class:	Feb 24, 2023	Last date to Drop without a "W":	March 1, 2023
Last date to Drop Class with refund:	Feb 24, 2023	Last date to Drop with a "W":	March 23, 2023

Late Work Penalty
ANY assignment, test, quiz, homework, etc. that is late (even 1 minute) will lose 10% FOR EVERY day that it is late. If it is late 1 minute into the next day, it is considered a day late, and Canvas will automatically apply the late deduction. So for instance, if the assignment is due on a Friday night, and you turn it in Monday, the highest score you can get is 70% since it is 3 days late.

Attendance
The Professor will drop students from this course for lack of active participation equal to 20% of the course duration. Active participation may include e-mailing the professor, writing in discussion forums, submitting assignments, taking quizzes and/or exams, or other interactive class activities. Logging into the learning management system does not constitute active participation.

Useful Websites
mtsac.edu/electronics (Electronics and Computer Technology Department Website)
https://www.facebook.com/groups/976616992357609/ Electronics Department Facebook Group
www.allaboutcircuits.com (Great all-in-one place to learn about Electronics)
www.batteryuniversity.com (Everything you ever wanted to know about batteries)
www.assist.org (To help assist you if you plan on transferring to a 4-year university)
www.salary.com (Salary info)

Useful App
Electrodoc (Android) or Electronics Engineer Helper (Apple)

Disabilities
If you have a documented disability and wish to discuss academic accommodations, please contact me as soon as possible. The accessibility resource center, ACCESS, is in bldg. 9B (909) 274-4290.

SPECIAL NOTE ABOUT COVID-19:
To protect the campus community from the spread of COVID-19, Mt. San Antonio College's classes and services have transitioned online as much as possible. Classes and labs that are held on campus will strictly follow safety guidelines. Learn more about these safety guidelines and read health notices at www.mtsac.edu/health.

Academic Honesty
All assignments must be completed independently. If you have any questions about the content of this course, or need help accomplishing an assignment, please contact the instructor rather than consulting with other students. The only consulting with other students that is allowed must be on the discussion board fully disclosed to everyone. This means all assignments must be done on your own, in your own words, and not shared. If at some point there is a suspicion of copying or using other's work as your own, in order to verify the authenticity of your work, the instructor may ask you to explain your submission content via zoom. Cheating and plagiarism (passing off someone else's work as your own) will not be tolerated and suspected or confirmed instances of such behavior will be handled in accordance with the College's policy on student misconduct.

Downloading or otherwise copying your text or any copyrighted materials from unauthorized sources is theft and will not be tolerated in this department. Stealing the work of others is not the appropriate way to show your frustration with the cost of college. Many institutional resources are available to assist you in obtaining course materials in a timely manner, and you should make time during the first week of the term to research how to avail yourselves of these resources. Submission for credit of materials from unauthorized sources is a form of academic dishonesty, and suspected or confirmed instances of such behavior will be handled in accordance with the College's policy on student misconduct.

Student Learning Outcomes
Measurable Objectives for this class can be found at: http://webcms10.mtsac.edu/
Student Learning Outcomes for this class are below:

- ELEC 50A-1. Students completing ELEC 50A will be able to make accurate readings of voltage, current, and resistance using analog and digital multimeters.
- ELEC 50A-2. As a consequence of significant program modification in which electronics math concepts will be covered in the ELEC 50A theory course, students in ELEC 50A will be able to numerically analyze a series-parallel circuit.
- ELEC 50A-3. Define common terms and recognize symbols used in DC electronic circuits.
- ELEC 50A-4. Explain circuit operation of various DC circuitry.
- ELEC 50A-5. Analyze from problems various DC unknown quantities.
- ELEC 50A-6. Analyze from schematics various DC unknown quantities.
- ELEC 50A-7. Predict unknown electronic quantities before solving electronic formulas.
- ELEC 50A -8. Measure and record electrical quantities.
- ELEC 50A-9. Demonstrate proper use of test equipment
- ELEC 50A-10. Troubleshoot various defects in DC circuitry.
- ELEC 50A-11. Calculate unknown electrical quantities in DC circuits.

Search Program/Discipline | Search Course

Search Courses

Search Courses

- Arson and Fire Investigation (FIRE 10)
- Basic Fire Academy (FIRE 86)
- Building Construction for Fire Protection (FIRE 4)
- Fire Apparatus and Equipment (FIRE 11)
- Fire Behavior and Combustion (FIRE 5)
- Fire Company Organization and Management (FIRE 8)
- Fire Fighting Tactics and Strategy (FIRE 7)
- Fire Hydraulics (FIRE 9)
- Fire Prevention Technology (FIRE 2)
- Fire Protection Equipment and Systems (FIRE 3)

1 2 3 ...

Student Learning Outcomes

Course Name: Electronic Circuits - Direct Current (DC)
Course Number: ELEC 50A
Course Objectives:

- Calculate unknown electrical quantities in DC circuits.
- As a consequence of significant program modification in which electronics math concepts will be covered in the ELEC 50A theory course, students in ELEC 50A will be able to numerically analyze a series-parallel circuit.
- Students completing ELEC 50A will be able to make accurate readings of voltage, current, and resistance using analog and digital multimeters.
- Define common terms and recognize symbols used in DC electronic circuits.
- Explain circuit operation of various DC circuitry.
- Analyze from problems various DC unknown quantities.
- Analyze from schematics various DC unknown quantities.
- Predict unknown electronic quantities before solving electronic formulas.
- Measure and record electrical quantities.
- Demonstrate proper use of test equipment
- Troubleshoot various defects in DC circuitry.

INURS 6: PEDIATRIC NURSING

Fall 2022

"Children are our treasures and our future"

Theory Professor: Kari Berch, MSN, RN

Lectures will be held on Mondays
0700-1505 Building 67A Room 206
Lunch Break 1115-1300
MT. SAN ANTONIO COLLEGE

Table of Content

MT. San Antonio College
ADN Nursing Program
Nursing 6: Pediatric Nursing

CRN # 40067
Total Units Credit: 3
Theory Hours: 27/1.5U
Clinical Hours: 81/1.5U
Prerequisite: N4 or Advance Placement
Degree Appropriate, CSU

COURSE DESCRIPTION: Concepts of nursing assessment and intervention with application to pediatric clients.

THEORY OBJECTIVES: Upon completion of lecture, discussion and assigned reading, the NURS 6 student will achieve the following objectives at a minimum of 75% or above level. The student will:

1. Identify the development tasks of families and individual members in relation to their location in the family life cycle.

2. Discuss the differences in infant/child versus adult client systems and common physiological, psychosocial, spiritual, stressors and needs of children, based on knowledge of pediatric anatomy, physiology, and principles of growth and development.

3. Describe the etiology, clinical manifestations, diagnostic evaluation, therapeutic management and nursing considerations/preventions for the child with common pediatric illnesses/injury and respiratory, cardiac, gastrointestinal, genitourinary, hematologic, immunologic, musculoskeletal and neuromuscular dysfunction.

4. Analyze the influence of cultural beliefs and values on the growth and development processes of the child and on assessment, care and treatment of the pediatric client.

5. Examine societal, personal and professional attitudes toward childrearing, pediatric health practices and current child related issues which may conflict with their own personal belief system.

6. Describe current trends, projected goals and challenges/ barriers to effective child health care in the US and worldwide.

7. Define and differentiate signs and symptoms of "normal" physical, psychological, and behavioral characteristics during the growing process as opposed to "abnormal conditions"

N6 Student Learning Outcomes

1. By the end of the course, at week 5 of every semester, each student will be competent in administering medication to the pediatric patient using the millligram to killigram formula.

2. By the end of the course, at week 5 of every semester, each student will be competent in performing a pediatric patient head to toe assessment.

3. Each student will demonstrate competency in pain assessment of the pediatric client in the clinical setting using the age appropriate pain scale.

4. Students will be able to identify appropriate immunizations to prevent communicable diseases.
5. Identify the developmental tasks of individuals and families in relation to their location in the family life cycle. (Theory- MO)

6. Discuss the basic principles of anatomy, physiology, pathophysiology, growth and development and other related principles, Neuman's Conceptual Model and the Nursing Process as they relate to the care of pediatric clients and their families. (Theory- MO)

7. Discuss the physical, mental/emotional, social and spiritual stressors and the needs of children based on knowledge of anatomy, physiology and principles of growth and development. (Theory- MO)

8. Utilize the problem solving process to identify primary, secondary and tertiary nursing preventions for pediatric clients and their families. (Theory- MO)

9. Describe the influence of culture on growth and development processes and on the assessment care and treatment of the pediatric client. (Theory- MO)

10. Discuss attitudes toward parenthood, child- bearing and various family life styles and compare/contrast them with personal beliefs. (Theory- MO)

11. Describe current trends and projected goals of child health care. (Theory- MO)

12. Define and differentiate signs and symptoms of 'normal' physical, psychological and behavioral characteristics during the growth process as opposed to indications of abnormal conditions. (Theory- MO)

13. Apply the basic principles of anatomy, physiology, pathophysiology, growth and development and other related principles, Neuman's Conceptual Framework and the Nursing

14. Process to the care of pediatric clients and their families. (Lab- MO)

15. Analyze and interpret physical signs and behavioral manifestations in response to biopsychosocial stressors that are obtained through nursing observations and interactions. (Lab- MO)

16. Formulate a nursing diagnosis from an established list based on assessed problems and dynamics of parent-child relationships. (Lab- MO)

17. Plan primary, secondary and tertiary preventions aimed at providing individualized care to pediatric clients and families. (Lab- MO)

18. Implement the comprehensive plan of care, considering attitudes, and/or philosophies which are different from personal beliefs, and utilize the expertise of health team members in varied pediatric health care and community settings. (Lab- MO)

19. Communicate verbally and in writing with clients, their families and health team members in various pediatric health care and community settings. (Lab- MO)

20. Evaluate the effectiveness of the care given and determine the degree of achievement of short and long term goals on the wellness- illness continuum. (Lab- MO)
21. Calculate and administer medications to children of all ages with 100% accuracy and chart appropriately. (Lab- MO)

22. Function as a team member and provide care to pediatric clients and their families according to legal standards and established outcome criteria. (Lab- MO)

23. Apply the principles of Neuman's Conceptual Framework in identifying the health care deficits and teaching needs of selected pediatric clients and family members. Plan, implement and evaluate the secondary prevention techniques aimed at meeting the needs of those clients and families. (Lab- MO)

24. Record and document observations and treatment measures for clients according to established facility and instructional guidelines. (Lab-MO)
CBE for the patient that was cared for that week. SBARs will be available on CANVAS.

Search Program/Discipline | Search Course

Search Courses

Search Courses

- Arson and Fire Investigation (FIRE 10)
- Basic Fire Academy (FIRE 86)
- Building Construction for Fire Protection (FIRE 4)
- Fire Apparatus and Equipment (FIRE 11)
- Fire Behavior and Combustion (FIRE 5)
- Fire Company Organization and Management (FIRE 8)
- Fire Fighting Tactics and Strategy (FIRE 7)
- Fire Hydraulics (FIRE 9)
- Fire Prevention Technology (FIRE 2)
- Fire Protection Equipment and Systems

Student Learning Outcomes

Course Name: Pediatric Nursing
Course Number: NURS 6
Course Objectives:

- Each student will be competent in administering medication, all routes except IV push, to the pediatric patient using the correct weight conversion.

Weld 53A Welding Metallurgy 3 Units **CRN: 42342/VOC42954**
Mt. San Antonio College Spring 2023 RM 69-21
Thursday: 8:00AM-11:10AM

WELD 53A

Welding Metallurgy

Spring 2023

Figure 1 Molten metal clipart

Instructor Contact Information:

John Kuchta	*Office Phone:* *(909)594-5611 x5465* *Cell:* *(626)378-4684 (Text only)*		*Email address:*	**jkuchta@mtsac.edu**
Office: 69-10B	Office Hours: Monday, Wednesday, Thursday, Friday: 12-1PM			
Note: The Canvas "Inbox" within our canvas course shell is the best method to contact me.				

Course Description:

In this class, we will learn about the structure of matter, physical and mechanical properties of metals, principles of alloying, plastic deformation, and heat treatment. We will also learn about the various properties of metals, and how they impact us as welders and fabricators.

Course Measurable Objectives and Student Learning Outcomes:

- Describe nature of metals and the relationship between their structural and mechanical properties.
- Utilize metallurgy tools and equipment as a means of determining weld soundness.
- Explain industrial processes for manufacturing ferrous and non-ferrous metals.
- Interpret iron-carbon relationship and its effect on welding of ferrous metals.
- Examine the purpose of pre- and post-heat treatments on welded metals.
- Compare and contrast the cause of deformation on welded metals.
- Recognize effects of alloying materials in ferrous and non-ferrous metals.
- Identify crystal structure of metals and their changes in heat treatment processes.

Textbook:

Metallurgy: Fundamentals. 5th Edition. By Daniel A. Brandt and J.C. Warner. Goodheart-Wilcox Publishing, 2005. ISBN 978-1-60525-079-3

Attendance & Grading Policies:

This class meets once a week. Attendance is vital. You may be dropped from the class if you have more than three unexcused absences, and have not made arrangements with the professor.

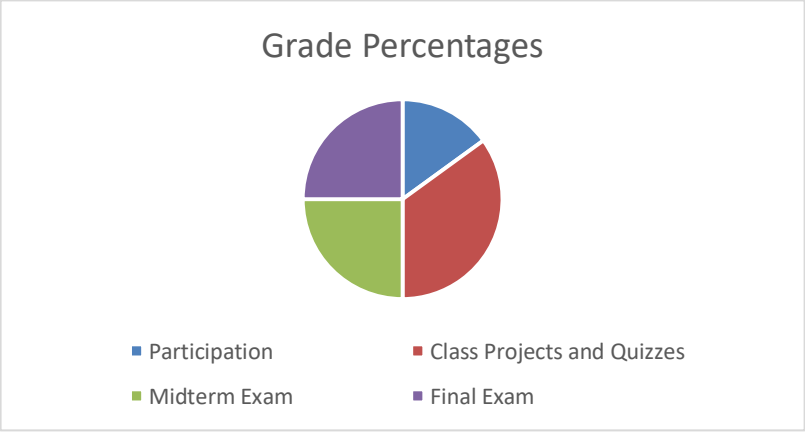
Grading/Feedback:

I will endeavor to have all assignments graded within **48 hours** of their due date, if not sooner. Additionally, assignments turned in early will be graded as soon after submission as possible. Also, I try and respond to email questions within 12-24 hours of receipt of the email.

Late work:

I would really like to see everyone turn in work on time. That said, turning in work late (once or twice), is fine. If work is chronically turned in late, however, I reserve the right to deduct 1 point for every day late. If you are having trouble turning work in on time contact me and we can formulate a solution!

Grades are based on the following:



Search Program/Discipline | Search Course

Search Courses

Search Courses

- Arson and Fire Investigation (FIRE 10)
- Basic Fire Academy (FIRE 86)
- Building Construction for Fire Protection (FIRE 4)
- Fire Apparatus and Equipment (FIRE 11)
- Fire Behavior and Combustion (FIRE 5)
- Fire Company Organization and Management (FIRE 8)
- Fire Fighting Tactics and Strategy (FIRE 7)
- Fire Hydraulics (FIRE 9)
- Fire Prevention Technology (FIRE 2)
- Fire Protection Equipment and Systems (FIRE 3)

Student Learning Outcomes

Course Name: Welding Metallurgy
Course Number: WELD 53A (VOC)
Course Objectives:

- Students will be able to explain the use of metallurgy tools and equipment as a means of determining weld soundness.
- Interpret iron-carbon relationship and its effect on welding of ferrous metals. (MO
- Students will explain the industrial processes of manufacturing ferrous and non-ferrous metals.
- Students will run hardness tests and other assessments means to understand how grain structure relates to strength and ductility of metals.
- Describe nature of metals and the relationship between their structural and mechanical properties. (MO)
- Describe effects of alloying metals in relationship to a welding procedure. (MO)
- Examine the purpose of pre- and post-heat treatments on welded metals. (MO)
- Compare and contrast the cause of deformation on welded metals. (MO)
- Recognize effects of alloying materials in ferrous and non-ferrous metals. (MO)
- Identify crystal structure of metals and their changes in heat treatment processes. (MO)
- Utilize metallurgy tools and equipment as a means of determining weld soundness. (SLO/MO)