Syllabus

Materials Processing

MME 4404 (CRN 20846)

Course Description:

This course is an introduction to a variety of manufacturing processes. The properties, design and manufacturing of metals, ceramics, polymers and composite products will be studied. Specialized metallic manufacturing concepts, surface treatments and joining of metallic will also be covered.

Prerequisites: MME4303 or MET4304, with a grade of “C” or better and junior standing.

Measurable Student Learning Outcomes:

At the completion of this course, students will have a thorough outstanding of manufacturing processes of metals, ceramics, polymers, composites and some specialized topics in metallic and modern materials.

Professor:

Dr. Guikuan Yue, Ph.D.

Office: M-201D Metallurgy Suite, Engineering-Science Complex
E-mail: gyue@utep.edu
Phone: 747-6934

Office Hours:

Tuesday (13:30-15:00 pm) & Thursday (10:30-11:30 am) or by appointment, in person or virtually via Blackboard Collaborate. These may change so please feel free to talk with me in my office, in the class or email me with any questions or to schedule an appointment.

Meeting Times and Places:

Class: Tuesday & Thursday, 09:00 to 10:20 am, Liberal Arts Building 206
Lab: Thursday, 15:00-17:50 pm, Liberal Arts Building 209

There will be meetings in other places – for laboratory demonstrations, experiments, design activities or making and testing specimens. I will announce these both in class and on Blackboard when necessary.
Deliverables and Grading:

- 30% Homework
- 30% Tests (three)
- 20% Topics Report(s) and Projects
- 20% Final Exam

- Late work will NOT be accepted, quizzes, labs and test cannot be made up. If you have a valid excuse for an absence please talk to me.
- Quizzes will be given at the beginning of each class and will serve as a topic check from the previous lecture.
- Homework and labs will be provided as necessary and help increase your understanding of topics from the text.
- Topics reports/projects will be assigned on a biweekly schedule and will cover modern manufacturing methods.
- Test and the Final Exam will assess your understanding of covered topics. Tests will contain multiple choice, short answer questions and/or calculations.

Course Outline of Subject Matter:

- Introduction: families of materials, properties and applications
- Solidification Processes: Glassworking and Polymers
- Particulate Processing: Powder Metallurgy and Ceramics
- Manufacturing flowsheet for composites
- Property Enhancement and Surface Treatment
- Metal forming and Sheet Metalworking
- Joining and Assembly Processes
- Special Processes: Nanofabrication etc.

Textbook and Other Readings:


- Other Reading: Available electronically from UTEP library.

You will need to use the Internet extensively for some assignments and books available in the library.
Group Work, Cheating, Plagiarism and Quality:

I encourage you to work together in groups to solve homework problems. Discussing problems in groups is an effective way to learn difficult concepts. Put all names of collaborators on the assignment when you have worked in a group, however everyone must turn in their own assignment. Copying another person’s work is cheating and will be treated as such.

You must work alone when completing quizzes and exams.

Your work must be professional. If you would be embarrassed to hand your homework to your supervisor, please do not hand it to me. Work that is deemed unprofessional or unreadable will be returned ungraded.

Late work is generally not accepted. Work can be turned in at the beginning of class.

Please Note: NO programmable calculators will be allowed for exams!

Cheating/Plagiarism:

Cheating is unethical and not acceptable. Plagiarism is using information or original wording in a paper or reference without giving credit to the source of that information or wording: it is also not acceptable. You may not submit work for this class that you did for another class. If you are found to be cheating or plagiarizing, you will be subject to disciplinary action, per UTEP catalog policy. Refer to http://www.utep.edu/dos/acadintg.htm for further information.

Disabilities:

If you have a disability and need accommodations, please contact The Center for Accommodations and Support Services (CASS) at 747-5148, or by email to cass@utep.edu, or visit their office located in UTEP Union East, Room 106. For additional information, please visit the CASS website at www.sa.utep.edu/cass.

Course Withdrawal Policy:

If a student withdraws from a course prior to the official census date of any semester, the course will be deleted from the student’s record. Withdrawal from a course initiated by a student after the census date but prior to the course drop deadline, will result in a grade of “W.” After the course drop deadline, withdrawal from a course initiated by a student will result in a grade of “F.”

Attendance:

Page 3
University policy dictates that all students attend all scheduled classes, meaning that attendance to both the class and laboratory sessions is mandatory. However, I understand if you have conferences or other school-related activities to attend. Please notify me of any commitments you may have prior to you being absent from class. “Emergency” absences will be handled on a case by case basis.

According to UTEP Curriculum and Classroom Policies, “When, in the judgment of the instructor, a student has been absent to such a degree as to impair his or her status relative to credit for the course, the instructor may drop the student from the class with a grade of “W” before the course drop deadline and with a grade of “F” after the course drop deadline.” See academic regulations in the UTEP Undergraduate Catalog for a list of excuse absences. Therefore, if I find that, due to non-performance in the course, you are at risk of failing, I will drop you from the course. I will provide 24 hours advance notice via email.

OR

I will not drop you from the course. However, if you feel that you are unable to complete the course successfully, please let me know and then contact the Registrar’s Office to initiate the drop process. If you do not, you are at risk of receiving an “F” for the course.

E-Mail Policy:

Please do not send e-mails regarding the course to me with an account other than your UTEP account. Do not turn in homework assignments via e-mail unless directly instructed to do so.

Use of Electronic Devices:

As a courtesy to me and the other students in class, the use of cell phones, and pagers is not allowed while class is in session.

COVID-19 Precaution:

Please stay home if you have been diagnosed with COVID-19 or are experiencing COVID-19 symptoms. If you are feeling unwell, please let me know as soon as possible, so that we can work on appropriate accommodations. If you have tested positive for COVID-19, you are encouraged to report your results to covidaction@utep.edu, so that the Dean of Students Office can provide you with support and help with communication with your professors. The Student Health Center is equipped to provide COVID-19 testing.

The Center for Disease Control and Prevention recommends that people in areas of substantial or high COVID-19 transmission wear face masks when indoors in groups of people. The best way that Miners can take care of Miners is to get the vaccine. If you still need the vaccine, it is widely available in the El Paso area, and will be available at no charge on campus during the first week of classes. For more information about the current rates,
testing, and vaccinations, please visit epstrong.org.

**Technology Requirement:**

Course content is delivered via the Internet through the Blackboard learning management system (LMS). Ensure your UTEP e-mail account is working and that you have access to the Web and a stable web browser. Mozilla Firefox and Google Chrome are the most supported browsers for Blackboard; other browsers may cause complications with the LMS. When having technical difficulties, update your browser, clear your cache, or try switching to another browser.

You will need to have access to a computer/laptop, scanner, a webcam, and a microphone. You will need to download or update the following software: Microsoft Office, Adobe Acrobat Reader, Windows Media Player, QuickTime, and Java. Check that your computer hardware and software are up-to-date and able to access all parts of the course.

If you do not have a word-processing software, you can download Word and other Microsoft Office programs (including Excel, PowerPoint, Outlook and more) for free via UTEP’s Microsoft Office Portal. Click the following link for more information about Microsoft Office 365 and follow the instructions.

IMPORTANT: If you encounter technical difficulties beyond your scope of troubleshooting, please contact the UTEP Help Desk as they are trained specifically in assisting with technological needs of students. Please do not contact me for this type of assistance. The Help Desk is much better equipped than I am to assist you!

**Netiquette:**

As we know, sometimes communication online can be challenging. It’s possible to miscommunicate what we mean or to misunderstand what our classmates mean given the lack of body language and immediate feedback. Therefore, please keep these netiquette (network etiquette) guidelines in mind. Failure to observe them may result in disciplinary action.

- Always consider audience. This is a college-level course; therefore, all communication should reflect polite consideration of other’s ideas.

- Respect and courtesy must be provided to classmates and to the instructor at all times. No harassment or inappropriate postings will be tolerated.

- When reacting to someone else’s message, address the ideas, not the person. Post only what anyone would comfortably state in a face-to-face situation.

- Blackboard is not a public internet venue; all postings to it should be considered private and
confidential. Whatever is posted on in these online spaces is intended for classmates and professor only. Please do not copy documents and paste them to a publicly accessible website, blog, or other space.

Blackboard Collaborate Sessions:
You may participate in scheduled Blackboard Collaborate sessions. The purposes of these sessions are for you to view live demonstrations of the course material and/or to participate in small discussion groups with your classmates.

The sessions will be recorded and provided so that they can be reviewed by classmates at a later time. Students should not record the sessions and post them to any sites outside of Blackboard.

Alternative Means of Submitting Work in case of Technical Issues:
I strongly suggest that you submit your work with plenty of time to spare in the event that you have a technical issue with the course website, network, and/or your computer. I also suggest you save all your work (answers to discussion points, quizzes, exams, and essays) in a separate Word document as a back-up. This way, you will have evidence that you completed the work and will not lose credit. If you are experiencing difficulties submitting your work through the course website, please contact the UTEP Help Desk. You can email me your back-up document as a last resort.

Incomplete Grade Policy:
Incomplete grades may be requested only in exceptional circumstances after you have completed at least half of the course requirements. Talk to me immediately if you believe an incomplete is warranted. If granted, we will establish a contract of work to be completed with deadlines.

Scholastic Integrity:
Academic dishonesty is prohibited and is considered a violation of the UTEP Handbook of Operating Procedures. It includes, but is not limited to, cheating, plagiarism, and collusion. Cheating may involve copying from or providing information to another student, possessing unauthorized materials during a test, or falsifying research data on laboratory reports. Plagiarism occurs when someone intentionally or knowingly represents the words or ideas of another as ones' own. Collusion involves collaborating with another person to commit any academically dishonest act. Any act of academic dishonesty attempted by a UTEP student is unacceptable and will not be tolerated. All suspected violations of academic integrity at The University of Texas at El Paso must be reported to the Office of Student Conduct and Conflict Resolution (OSCCR) for possible disciplinary action. To learn more, please visit HOOP: Student Conduct and Discipline.
Class Recording:

The use of recordings will enable you to have access to class discussions or reviewing course materials, and so on in the event you miss a synchronous or in-person class meeting due to illness or other extenuating circumstance. Our use of such technology is governed by the Federal Educational Rights and Privacy Act (FERPA) and UTEP’s acceptable-use policy. A recording of class sessions will be kept and stored by UTEP, in accordance with FERPA and UTEP policies. Your instructor will not share the recordings of your class activities outside of course participants, which include your fellow students, teaching assistants, or graduate assistants, and any guest faculty or community-based learning partners with whom we may engage during a class session. You may not share recordings outside of this course. Doing so may result in disciplinary action.

Copyright Statement for Course Materials:

All materials used in this course are protected by copyright law. The course materials are only for the use of students currently enrolled in this course and only for the purpose of this course. They may not be further disseminated.