

AGE-1320

Section 1, CRN: 320/321/378

Section 2, CRN: 379/381/380

First Semester 1448 H (Fall 2026) – 2(1,1,2)

“Introduction to Manufacturing”

Friday, Sep. 18, 2026 (07/04/1448H)

Course Project [20 Points]

Review of Recent “Manufacturing” Research

You are required to locate, read, and summarize recent scientific literature on *any* topic generally related to “Manufacturing”. Please read the following rules carefully:

- The literature must be **scientific**! This means that any non-peer-reviewed material can be acceptable only as a reference or a tool to help you in your project. However, it will not count as one of your major sources. You are highly advised to use a scientific search database to help you in your research.
- Use at least **two** (2) journal or conference publications, obtained from a major scientific database (such as *Science Direct*).
- The references must present a fairly **recent** topic, preferably within the last three to five years.
- Academic honesty** rules seriously apply. Therefore, you are required to use your own words in summarizing, linking, and drawing conclusions from this work. Simply copying and pasting will not be accepted!
- You will earn more credit if you are able to **show a relationship** between your research and content covered during the course. For example, you may want to show a recent development of some of the data or research shown in one of the chapters covered in class.
- You must attach all **physical references** (not just links) used as an appendix to your report. You must also properly **cite** all your references (i.e. within your report).
- The **report** must include the following sections:
 - Introduction regarding your topic
 - Common applications
 - Summary of case studies from selected articles
 - References
 - Who did what section

- h) Your group will be required –collectively– to perform a **4 to 5-minute** presentation (you will not be allowed to exceed the time limit).
- You will present a summary of your project, and you **MUST** include slides (at the end) that state ALL **references**, and “**who did what.**”
 - Note, besides the quality of the content of your work, you will receive a grade for your team coordination, overall presentation and speech skills, as well as your PowerPoint slides. **All group members** must participate in this activity.

Important Rules and Reminders:

- You are required to work in a team of **3-4** students. No exceptions! You must dedicate a section of you report to show “**who did what**”.
- All presented work must be neatly **typed**. Note, besides content and quality, you will also be graded on your spelling, grammar, formatting, neatness, etc.
- You must **submit** the following **by 2 PM on the day of your scheduled presentation** (no late work will be accepted):
 - **Report** showing all steps and details of the complete work accomplished in this project (.docx format)
 - **Presentation** (.pptx format)
 - Copies of all **publications** you have used, photos, and any other material and/or references that add value, and authenticity to your work. Remember, you will be monitored for plagiarism.
 - Place all work in **one folder** (make sure you number it according to your group number, e.g. “Project_G04”), **upload** the folder to a cloud-based storage service (e.g. Google Drive or OneDrive), then **send an email** to aelsherbeeney@ksu.edu.sa including a link to your work.
 - Make sure to include your **group number** on all submitted work (cover page of report / first slide of presentation).
- The scheduled presentation date is: **Saturday, Nov. 14th, 2026 (04/06/1448H)**.
 - The presentations will be held via Zoom, at the following address (<https://zoom.us/j/2557992359> – password: 0). Groups should be prepared to start and be waiting in the waiting room 3 minutes prior to the designated starting time. As soon as the prior group has completed your group will be allowed to enter.

- A total of 10 minutes is allotted to each group, distributed as follows:
 - 4 to 5-minute presentation (as mentioned above)
 - 2 to 3-minute Q/A session
 - 1 to 2-minute transition to the new group

I wish you the very best with this project, and hope you can both learn and enjoy working on it.

List of Previous Projects

Note, you are not allowed to repeat the same topic in your current project.

#	Topic	Semester
1	AI in Quality Control	Fall – 2025
2	Cutting-Tool Materials: HSS	Fall – 2025
3	The History of Micrometer	Fall – 2025
4	CNC Milling Machine for Mfg.	Fall – 2025
5	Modern Coating Techniques	Fall – 2025
6	Advances in Smart Mfg & Digital Twin	Fall – 2025
7	Sustainable Machining, Dry and MQL	Spring – 2026
8	Turning Process: Improving Surface Quality and Tool Life using AI	Spring – 2026
9	Advanced Tool Coatings and Wear Reduction	Spring – 2026
10	Intelligent Tool Wear Monitoring Using Sensors, Machine Learning	Spring – 2026
11	Analysis of Human Error in Mfg. Accidents	Spring – 2026
12	Drilling with Tool Wear Analysis using Sensor-Based Monitoring	Spring – 2026
13	Effect of Coating Materials on Cutting Tool Performance and Wear	Spring – 2026

14	Reducing Tool Wear in Drilling Using Advanced Tool Materials	Spring – 2026
15	Cooling and Lubrication Strategies in Drilling of Composite Materials	Spring – 2026
16	Recent Advancements in Hazard Identification Techniques in Mfg.	Spring – 2026
17	Digital Safety Management Systems in Modern Mfg. Facilities	Spring – 2026
18	Traditional vs. Modern Automated Welding	Spring – 2026
19	Common Safety Violations in Machining Labs	Spring – 2026
20	Optimization of Surface Roughness in CNC Turning Using AI-Based Models	Spring – 2026

