

IE-352

Section 1, CRN: 48700/1/2

Section 2, CRN: 48703/4/5

Section 3, CRN: 48706/7/8

Second Semester 1436-37 H (Spring-2016) – 4(4,1,2)

“MANUFACTURING PROCESSES – 2”

Sunday, Mar. 27, 2016 (18/06/1437H)

Course Project [10 Points]

Review of “Advanced Machining” Process.

You are required to locate, read, summarize, and present recent scientific literature on any advanced (or non-traditional) machining process. Please read the following rules carefully:

- a) **Examples** of advanced machining include ultrasonic, chemical, electrochemical, electrical discharge, laser-beam, electron-beam, water-jet, abrasive-jet, and hybrid machining. Other such topics are also acceptable.
- b) The literature must be **scientific!** You are highly advised to use a scientific search database to help you in your research.
- c) Use at least **two** (2) references, at least one of which is a journal or conference publication, obtained from a major scientific database (such as *Science Direct*). The second reference may be authentic learning material obtained either from a textbook, or acquired online.
- d) The references must present a fairly **recent** topic, preferably within the last three to five years.
- e) **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!
- f) 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.
- g) You must attach all **physical references** (not just links) used as an appendix to your report. You must also properly **cite** all your references.
- h) The **report** must include the following sections:
 - Introduction of selected process
 - Advantages and disadvantages

- Applications
 - Main process parameters
 - A case study from the article (e.g. in biomedical or other engineering applications)
 - References
 - Who did what section
- i) You will **present** a summary of your research as described in the rules section below.
- j) Include a slide in your presentation that lists your **references**.

Important Rules and Reminders:

- You are required to work in a team of no less than **3** and no more than **4** students. No exceptions! You must dedicate a section of your report to show “**who did what**”.
- All presented work must be neatly **typed, printed, and bound**. No handwritten work will be accepted. Note, besides content and quality, you will also be graded on your spelling, grammar, formatting, neatness, etc.
- You **must submit** the following:
 - A *printed and bound* **report** showing all steps and details of the complete work accomplished in this project.
 - Printout of slides used in your **presentation** (use 2-4 per page; grayscale).
 - A copy 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.
 - Attached, labeled **CD** containing all the above-mentioned items (most importantly the **report, presentation, and publications**). **Points will be deducted** for one or more missing items from the above list.
 - Note, you must submit all work **on the day of your scheduled presentation**. No late work will be accepted.
- Your group will be required –collectively– to perform a **5-7 minute** presentation. **Points will be deducted** if you exceed the time limit. This will be held on the following date:
 - **Sunday, April 17th, 2016** (10/07/1437H). Note, the time and location will be announced at a later time.

- Note, besides the quality of the content of your work, you will receive a grade for your overall presentation and speech skills, as well as your PowerPoint slides. **All group members** must participate in this activity.

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