You are now all on a team for the ME341 Project. The project will be completed in increments as follows:

Instructor assigns teams (completed)
Select preferred topics (completed)
Instructor assigns projects (completed)
Team writes and submits “background”

**Background:**
As a project team:
- Conduct literature search to investigate the manufacturing process you will be studying.
- Write what will become the “background” section for your report and submit it to the instructor.
- Be sure to properly cite references and include bibliography at the end of the background.

**Common question #1:** how long is it supposed to be?
**Common answer #1:** sufficiently long (see “purpose” below) – I’d expect most to be about 1 to 2 full pages, single spaced. However, quality is more important than quantity. Write concisely, but smoothly (not choppy).

**Common question #2:** how many references?
**Common answer #2:** a sufficient number. Again, quality is more important than quantity – it is better to have a few “reliable and substantial” references than a thousand “wiki” references. At a minimum, two of your references must be from the Reference Books and Journals or similar books or journals list below. You should certainly have more than two references, but the additional references may be from other sources.

**Purpose of a background:** the background is to educate the reader as to what they need to know before they can understand the work you will be discussing in the remainder of your report. Right now you are in a good position to determine what should go in the background because you probably know very little about the specific process you will be studying. For example, what do you think you should know about casting before you meet with a foundry to discuss a detailed project?

**Other tasks to be accomplished, but not yet assigned:**
- Meet with the industrial partner, tour the facility, define a project – soon after completing background.
- Conduct testing (or other appropriate tasks), analyze the data
- Compile and submit a full report (near end of the semester)
Reference Books & Journals:

GENERAL:

9. Manufacturing Engineering Processes by Leo Alting, Marcel Dekker, Inc.

METAL FORMING:

2. Handbook of Metal Forming Processes by Betzalel Avitzur, John Wiley & Sons, Inc.
3. Elements of Metalworking Theory by Geoffrey W. Rowe, Edward Arnold Publishers, Ltd.

PROCESS MODELING:

5. Finite-Element Plasticity and Metal Forming Analysis by G.W. Howe, Cambridge Univ. Press.

MACHINING & TOOL DESIGN:

1. Machining Fundamentals by Daniel Follette, Society of Manufacturing Engineers.
2. The Machining of Metals by E. J. A. Armarego and R. H. Brown, Prentice-Hall, Inc.
5. Metal Cutting Principles by Milton Shaw, Oxford University Press.
6. Non-traditional Machining Processes by E. Weller, Society of Manufacturing Engineers.
8. Handbook of High-Speed Machining Technology by Robert I. King (Ed.), Chapman & Hall.

CASTING & POWDER METALLURGY:

2. Steel Castings Handbook by P. F. Wieser (Ed.),
4. **Pressure Diecasting** by B. Upton, Pergamon Press.
7. **Powder Metallurgy of Superalloys** by G. H. Gessinger, Butterworths.
11. **Sintering Technology** by R.M. German (Ed.), Marcel Dekker.
12. **Ceramic Injection Molding** by B. Mutsuddy, Chapman & Hall.
13. **Injection Molding of Metals and Ceramics** by Randall M. German and Animesh Bose, Metal Powder Industries Federation.

**FILMS/COATINGS & ELECTRONIC MATERIALS:**

4. **Methods and Materials in Microelectronic Technology** by Joachim Bargon (Ed.), Plenum Corp.

**PLASTICS/COMPOSITES & GLASS:**

1. **Plastics Technology Handbook** by Manas Chanda, Marcel Dekker, Inc.
3. **What Every Engineer Should Know About Developing Plastics Products** by B. Wendle, Marcel Dekker.
5. **Plastics Processing**, Radian Corporation, Noyes
7. **Plastics Engineering** by R. J. Crawford, Pergamon Press.
9. **Composites in Manufacturing: Case Studies** by A. Brent Strong, Society of Manufacturing Engineers.
11. **Glasses and Their Applications** by Harold Rawson, Institute of Metals.

**MISCELLANEOUS:**

1. **Materials Selection in Mechanical Design** by M.F. Ashby, Pergamon Press.
2. **Materials Selection for Engineering Design** by Mahmoud Farag, Prentice-Hall.