Outline of Term Project

IE 665 – Applied Ergonomics, Instructor: Dr. Arijit Sengupta

Purpose: The objective of this project is to familiarize yourself with selected ergonomics research areas and subsequently apply the knowledge gained in solving a real-world problem. You will study the state of art in the selected topics from ergonomics publications in journals, textbook and Internet sources. You will analyze a task, procedure, environment, or device common in the workplace, assess the resulting risk of injury, and provide tangible recommendations for any changes that should occur. You will work in a team of two to three. Hopefully this will develop interpersonal skills, teamwork skills, and mutual interdependence. You will improve your technical writing skill by preparing a written report and an in-class presentation.

Resources: textbooks, journal articles, internet, and industrial/commercial literature, Safety laboratory at GITC 2309.

Example Topics
- Workplace Ergonomic and Redesign or Evaluation of a Workplace
- Office Ergonomics and Redesign or Evaluation of Chair, Office Workstations, or Computer Peripherals
- Posture Analysis Tools (RULA, REBA, OWAS etc) and Application of Posture Analysis in Repetitive Tasks in Industry
- Laboratory based investigation using Force plate, Flock of bird, EMG, Elgon, Static strength, HR/BP etc.
- Biomechanical Force Analysis (Static and/or Dynamic) of Tasks in Workplaces
- Lifting Analysis of Tasks in Workplaces
- Ergonomic Redesign or Evaluation of Hand Tools in the Workplace
- Other, pending approval from instructor

Initial Project Proposal: Your team will need to write and present a 1-to-2-page project proposal to demonstrate the merit of the project. The outline should specify the topic you of your choice, what aspect(s) of the topic you will cover, a brief outline of steps you will follow, which resources you expect to need in your research and the significance of your project. This must be thorough and to the point. This proposal will be graded on content and comprehensiveness, but not on presentation. This is **due on the fourth week** of the class and will be returned to you on the following week.

Final report and class presentation: A final report and class presentation will be **due on the 13th week** of the course. You will be required to submit one copy of a 15-25 pages written report. Please print with double spacing text on single-sided 8.5"x11" pages. An in-class Presentation (20 minutes = 15 minute presentation + 5 minute Q&A) will be given by your Team.

Typical format of the final report: Title Page (1 page), Abstract/Summary (1 page), Introduction (2-4 pages), Methodology and Materials Used, including any photos/tables/graphs/diagrams (3-4 pages), Results and Discussion, including any photos/tables/graphs/diagrams (6-10 pages), Recommendations/Conclusions (1-4 pages), Bibliography/References/Endnotes (1 page).

Grading Scheme (breakdown of 100 marks)
Initial Project Proposal (10)
Final class presentation (20)
- Overall Impression (10)
- Creative use of audio, visual, "demonstrations/props", or "hand out" aids (5)
- Dealing with Questions from audience (5)
- Content: Is it Technically/Scientifically Comprehensive and Correct (5)
Written Report (70)
- Content: Is it Technically/Scientifically Comprehensive and Correct? (50)
- Is it Clear, concise and error free? (10)
- Is it Impressive in its presentation and writing style? (10)