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| **Semester:** | 7 | | | | |
| **Course Code:** | ME5120 | | | | |
| **Course Name:** | Ergonomics | | | | |
| **Credits Value:** | 2 (Notional hours: 100) | | | | |
| **Pre-requisites:** | None | | | | |
| **Core/ Optional:** | Optional | | | | |
| **Hourly Breakdown** | Lectures (hours) | Tutorials (hours) | Practical classes (hours) | Assignments (hours) | Independent Learning & Assessment (hours) |
| | 27 | | | 06 | 67 |

**Course Aim:** To impart knowledge on the role of human factors in engineering applications.

**Intended Learning Outcomes:**

On successful completion of the course, the students should be able to;

- **identify** aspects of job tasks that may increase a worker's risk of developing musculoskeletal disorders (MSDs), using ergonomics assessment tools including checklists
- **recognize** the signs and symptoms of MSDs,
- **participate** in the development of strategies to control or prevent MSDs
- **formulate** implementation plans
- **illustrate** the value of such plans

**Course Content:**

- **Introduction:** Areas of ergonomics; Stakeholders; productivity & benefits
- **Ergonomic background & theories:** Human Body; anthropometry; physiological aspects; occupational biomechanics; psychological aspects; social psychology; safety & health
- **Ergonomic interventions:** Ergonomic evaluation and investigation, norms and standards; checklists and other techniques

**Teaching/ Learning Methods:**

Classroom lectures, in-class exercises and assignments

**Assessment Strategy:**

| **Continuous Assessment** 40% | | **Final Assessment** 60% | | |
|---|---|---|---|---|
| Details: | | Theory (%) | Practical (%) | Other (%) (Project) |
| Assignments/Quizzes | 20% | 60% | | |
| Mid Semester Examination | 20% | | | |

**Recommended Reading:**

- G. Cohen, A. L., *Elements of ergonomics programs: a primer based on workplace*

*evaluations of musculoskeletal disorders*.

- Dulaney, E & Weerdmuster, B.A., *Ergonomics for beginners: a quick reference guide*
- Oborne, D, *Ergonomics at work: human factors in design & development*.John B. Heywood (2018), *Internal Combustion Engine Fundamentals* (2nd Edition), McGraw-Hill Education, New York, USA.