

**WORK DESIGN AND ANALYSIS**  
**IE 441**  
**LABORATORY MANUAL**

LAB – 3

**METHOD IMPROVEMENT**



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## **LAB # 3 METHOD IMPROVEMENTS**

### **Objective:**

The objective of Lab #3 is to give you some practical experience in observing and designing a new method (including workstation layout) that reduces or eliminates the ineffective motions.

### **How to do it: -**

1. Observe the Bolt and washer assembly task performed by the person in front of you in the lab #2.
2. Analyze the final charts made in Lab #2, for non-value-adding activities such, search unnecessary movements, as storage, movement and inspection.
3. Review the current method for opportunities of Improvement, and describe those aspects of current method that can be improved.
4. Describe modified work method.
  - a. Draw a sketch of the layout of workstation for revised improved method.
  - b. Create an operation chart for revised method.

When designing new workstation layout or method, keep in mind principle of motion economy, from which the following suggestions are.

- a) There should be a definite and fixed place for all tools and materials.
- b) Tools, materials, and controls should be located close to the point of use.
- c) Gravity feed bins and containers should be used to deliver materials close to the point of use.
- d) Materials and tools should be located to permit the best sequence of motions.
- e) The main objective is to eliminate idle or hold time for the hands.
- f) Jigs and fixtures should be used wherever possible to improve productivity.

### **Format for Lab Report:**

Cover Page is Title page in any format.

- Introduction to operation analysis and method improvement
- Brief introduction that explains the task you had studied.
- Revised method information as explained above.
  - o Sketch of layout.
  - o Operator process chart (operation chart).
  - o Determine the Value adding & non-Value Adding activities.
- Analysis – Explain comparison between the current and revised method (on basis of principle of motion economy). Why do you expect the revised method to improve productivity?
- Conclusion – what you conclude about operation analysis & method improvement.

**LAB # 3 OPERATION ANALYSIS (WORK SHEET)**

**Layout of Bolt & Washer assembly (improved method):-**

