

ROSSINGTON AUTO SUPPLY LTD.
ASSIGNMENT INSTRUCTIONS - 1220E TAKE-HOME EXAM
February 6, 2021

This exam should take you 3.5 hours and is intended to be completed individually within one continuous 3.5-hour sitting.

While basic standards of spelling and grammar still apply, and adherence to the standardized formatting guidelines is required, your time is best spent strengthening the quality of your analysis rather than the aesthetics of your submission. Grades will be awarded based on the persuasiveness of your work and your ability to validate your recommendations with strong analysis.

Follow the exam assignment questions below and remember the rules stated in the rules document.

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| 1. Identify the needs of Rossington Auto Supply Ltd. customers and perform a task analysis. How will your findings impact your decision? |
| 2. Describe the current process being used at Rossington. Do you feel this current process is appropriate? |
| 3. Prepare a process flow diagram for the current process. Determine the steel tube production capacity. Does current capacity satisfy existing demand? If not, how many overtime hours per week are required to meet current demand? |
| 4. Prepare a process flow diagram for the proposed changes. Calculate the production output for each of the new steps that will be implemented in the quality control process improvement plan. Will these changes impact overall capacity? |
| 5. What will the weekly steel tube capacity be if Rossington Auto purchases a second used bending machine? Will this be enough to meet demand? Perform a cost-benefit analysis and discuss the pros and cons of this alternative. Assume the third contract is awarded. |
| 6. Calculate the weekly steel tube capacity of purchasing a new bending machine? What are the qualitative pros and cons and quantitative costs and benefits of this option? Assume the third contract is awarded. |
| 7. How many steel tubes could Rossington Auto produce per week if a third shift were added? What are the qualitative pros and cons and quantitative costs and benefits of this proposed change? Assume the third contract is awarded. |
| 8. Qualitatively discuss the proposed alternative of increasing the variance in steel tube specifications. Is this a viable choice for Rossington Auto? |
| 9. As Martha Bauer, what decision would you make for the future of production at Rossington Auto Supply Ltd.? |