

EDSGN 100 Introduction to Engineering Design

Design Project #1: Dumpling Maker

Design Task:

Design and build a prototype of a dumpling maker suitable for use in either a household or a restaurant (backgrounds and some other details will be explained in class).

Design Specifications:

- The dumpling maker should be automatic or semi-automatic.
- The dumpling maker should produce no less than 10 dumplings per minute on average.
- The material cost for the dumpling maker should not exceed \$200 unless it can be justified.
- The dumpling maker should be safe as a food processor, easy to maintain, safe to use, and dishwasher safe.

Key Deliverables:

A lab report to be published on the web with the following items included (*Note: Guidelines for the lab report will be given later*):

1. Problem statement
2. Mission statement
3. Customer needs assessment
4. Gantt chart
5. Design approach (concept generation and concept selection with design matrix)
6. Working drawing
7. Prototype (images, scale, operation instruction, etc.)
8. Working mechanism and engineering analysis
9. Cost analysis
10. Conclusion
11. References (if any)
12. Acknowledgement (if any)

Evaluation Criteria:

- Design meets specifications
- Creativity/Innovation
- Working mechanism and operation instruction are clear
- Ease of operation
- Safe to use
- Cost efficient