

Minnesota State College Southeast

MDAD 1244: Design Projects Lab

A. COURSE DESCRIPTION

Credits: 5

Lecture Hours/Week: *.*

Lab Hours/Week: 10

OJT Hours/Week: *.*

Prerequisites: None

Corequisites: None

MnTC Goals: None

This course is a design class that will focus on the design process itself. The student will gain confidence in her or his ability to apply sound product design parameters based on design considerations. A holistic approach will be used to incorporate the many functions of a designer in a company. Many times this course is completed in a group format. The content goals of the course will change with the individual student design. The course will be taken in conjunction with Design Projects. (Prerequisites: MDAD1206, MDAD1208, MDAD1214, MDAD1218, MDAD1236) (5 credits: 0 lecture/5 lab)

B. COURSE EFFECTIVE DATES: 10/11/2002 - Present

C. OUTLINE OF MAJOR CONTENT AREAS

D. LEARNING OUTCOMES (General)

1. Analyze product design
2. Analyze industrial design
3. Analyze structural design
4. Analyze finite element analysis
5. Analyze parametrics
6. Analyze product parameters
7. Analyze manufacturing design
8. Prepare formal drawings from sketches
9. Analyze piping design
10. Analyze related design fields
11. Prepare formal drawings from layouts
12. Prepare formal drawings from verbal instructions
13. Analyze the designers roles
14. Identify design goal
15. Analyze product complexity
16. Draw preliminary sketch
17. Examine similar designs
18. Modify preliminary sketch
19. Formulate design sequence
20. Contact consultants
21. Analyze manufacturers' catalogs
22. Identify handbooks
23. Identify trade journals
24. Identify technical library
25. Identify trade magazines
26. Analyze power sources
27. Analyze product strength
28. Analyze product rigidity
29. Analyze product size
30. Analyze product weight
31. Analyze safety
32. Analyze lubricants
33. Analyze product appearance
34. Analyze materials
35. Analyze interchangeability
36. Analyze servicing
37. Analyze protective coatings
38. Calculate material costs
39. Draw preliminary layout
40. Analyze preliminary layout
41. Make product layout
42. Check detail drawings
43. Check assembly drawings
44. Organize work

E. Minnesota Transfer Curriculum Goal Area(s) and Competencies

None

F. LEARNER OUTCOMES ASSESSMENT

As noted on course syllabus

G. SPECIAL INFORMATION

None noted