SAP-01

Project Introduction: Project Name?

a) Background (Research and Summarize) - Find information, relating to CAD
   i) Current Technologies: 3D Printing, 3D Scanning, other uses of the CAD models, etc.
   ii) Future Technologies: Find new / breakthrough technologies and predictions
   iii) Other? Options, software, etc.
b) Perform the following tasks: Overview
   i) Scan: a football (or the palm tree)
   ii) Design several stands / holders (3-4/Team)
      (1) Sketch, Use Inventor. Show some inventor skill.
      (2) Consider cost (Amount of material)
   iii) Analyze / Determine a "best" design
      (1) Geometric Analysis: Volume
      (2) FEA (Shih Lesson 16)
   iv) Prototype the football / stand

Graded

a) (25%) Individual Log / Notebook
   i) Format: Bound notes, Ink, No erasing, number the pages.
   ii) Details of work done (in-class and out)
   iii) Validate: have teammate initial / date / time.
   iv) Document Everything: Assignments, Goals, questions, concerns, sources)
   v) Other assignments - Tape to the logbook
b) Team Written Report - (27 hours)(8 members)= 216 hours
   i) (25%) Written Report Score
   ii) (25%) Section Score
c) (10%) Peer evaluations
d) (15%) Individual Research

Lab:

a) Teams: Create a list, e-mail a copy to the instructor)
   i) Names
   ii) ISU e-mail
b) Organize research
   i) Individual assignments (See Below)
   ii) Identify gaps, re-assign as needed
c) Inventor Advanced 3D construction: Dryer Housing - Shih Lesson 11
   i) Practice, this will be helpful when you start designing your own stands
   ii) Creating the part model (and drawing) will be included in the team written report.
d) Trial Run
   i) Scan: scanning the selected object: football or Palm Tree
      (1) ScanStudio Manual: Use pull-down menu - Help | PDF Manual
      (2) Scanning notes
      (3) Find something else to scan, bring to class next time.
   ii) Design a stand
      (1) Search for existing solutions / inspiration.
      (2) Begin your designs (Sketches / Inventor)

Assigned / Individual (Due: Next Tuesday)

a) Research the following areas
   i) Current Technologies: 3D Printing, 3D Scanning, other uses of the CAD models, etc.
   ii) Future Technologies: Find new / breakthrough technologies and predictions
   iii) Other? Options, software, etc.
   iv) Additional Information
b) Required: Prepare a word document (.doc)
   i) List six things found
   ii) Include a one paragraph explanation of each.
   iii) Print the doc / submit during class
   iv) Save the file in the team folder on the s-drive