



TECHNOLOGY DAY

AT THE GEORGIA NATIONAL FAIR

October 12, 2009 in Reaves Arena

The Technology Student Association (TSA) is a national organization for elementary, middle and high school students who are presently enrolled in or have completed technology education classes. Technology education classes have a twofold mission: to help students gain an understanding of all aspects of technology and industry and to assist in the development of individual potential. TSA fosters this mission by developing leadership abilities and instilling a sense of pride in one's work. TSA also promotes high standards of technical ability, scholarship and safety. TSA is an organization that values the unique capabilities of students and offers many opportunities for personal growth and success.

Technology Day at the Georgia National Fair provides Georgia TSA (Technology Student Association) members with an opportunity to compete in various competitions to win money for their chapter and participate in a motivational rally to help get you pumped up and excited about the year to come!

Please take special note of changes in competitions and rules for this year. We are moving to an exciting rally format!

THE COMPETITIONS

Pre-Judged Events: Must be postmarked by September 18, 2009

Send to: Georgia TSA / PO Box 27 / Oakman, GA 30732

All prejudged events should be saved together on a single CD and labeled in the appropriate manner outlined in the rules for each event.

1. Promotional Design Challenge
2. Georgia TSA Pin Design Challenge
3. Architectural Design Challenge
4. Promotional TSA Video
5. Webpage Design – *Send to GNF (see rules for Address)*

Judged On-Site: Turned in on October 12 by 10:45am

6. Shirt Design
7. Membership Challenge High School
8. Membership Challenge Middle School
9. Transportation Modeling
10. Structural Challenge
11. Green Design Challenge

THE SCHEDULE

9:00-10:45am – Registration / Event Check-in

11:00-12:00pm – TSA Rally / Motivational Speaker

12:00pm – Georgia National Fair Opens

2:30pm – Technology Day Awards Session

REGISTRATION

Registration Fee: \$10

Registration Deadline: Sept. 18, 2009

Online registration:

www.registermychapter.com/tsa/ga-td

GNF Armbands: \$15 armbands can be pre-purchased for the rides

GENERAL RULES

1. Open to all students who are presently or have been enrolled in any technology education class in any middle school or high school in the State of Georgia.
2. All participating students must report with their teacher/advisor to the West ticket gate for admittance. **NOTE TO ADVISORS:** If you are bringing students that are not competing in TSA events, please call Teresa Hawk in the Communications Department (800-987-3247 ext 483) or email thawk@gnfa.com to arrange for entry for those students into the Fair at no charge. While entry into the Fair is free, students must pay a \$10 fee to TSA to attend TSA function. Advisors attending for POW must register and pay for students. Fair midway armbands may be purchased for \$15 with pre-registration and will be available for pick up at CHECK-IN. Otherwise, they may be purchased at the CHECK-IN table at registration.
3. All rules for contests are contained within this document.
4. Winning entries will be on display in Heritage Hall during the remainder of the Fair; other projects may be picked up after 3:00 PM on October 12. Winning entries will be available for pick up at the GA TSA Fall Leadership Conference. Any entries not picked up at that time will be discarded.

2009-2010 GEORGIA TSA OFFICER TEAM



Raven Hathcock
President
Riverdale High School

Kierra Sanders
Secretary
Fredrick Douglas High School

Savannah Shelton
Sergeant-at-Arms
Fannin County High School

Chris Kelly
First Vice President
Jasper County High School

Austin Vest
Treasurer
Fannin County High School

Terri Hancock
Georgia TSA Director

Katelyn Sutton
Second Vice President
Ben Hill Middle School

Shelby Watson
Reporter
Heritage High School

Ron Barker
GA TSA State Advisor

TSA DAY AT THE GNF SUPERIOR CHAPTER AWARD

1st Place Superior Chapter - \$500
Sponsored by the Georgia National Fair

2nd Place Superior Chapter - \$250
Sponsored by Butler Automotive Group

**2008 1st Place Superior Chapter
Riverdale High School**

**2008 2nd Place Superior Chapter
Monroe Area High School**

All placing will be put on a point system, example: 1st place=10 pts, 2nd place=9 pts, etc. These points will be calculated by chapter and the chapter with the highest accumulated points after the last competition will receive a GNF Superior Chapter Award plaque and \$500. The second place chapter will receive a GNF plaque and \$250.

All other prizes will be as follows for each of the events:

1 st Place \$50	2 nd Place \$40	3 rd Place \$30	4 th Place \$20	5 th – 7 th Places \$10	8 th – 10 th Places \$5
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PROMOTIONAL DESIGN CHALLENGE

Objective: Participants design a computer generated graphic that can be used to promote the Engineering and Technology Education programs in Georgia.

Entries are limited to three per chapter.

Procedures: All graphics should be saved as a *jpeg* or *pdf* file with the file name *PDC_student's name* and put on a CD. A copy of each graphic should be printed, placed in a plastic sheet protector, and mailed with the CD containing the files. All graphics and CD's should be mailed to Georgia TSA following the guidelines on page 1.

Regulations:

The design must meet the following criteria:

1. The design may not exceed 8"x10" and may be presented either horizontal or vertical. It should be printed on photo or cardstock paper.
2. The design must be computer generated.
3. The design must be original work of the student.
4. The design must include the following:
 - a. The words "Engineering and Technology Education"
 - b. The following non-discrimination statement: In accordance with Federal law and U.S. Department of Agriculture's policy, Georgia Engineering and Technology Education programs are prohibited from discriminating on the basis of race, color, national origin, sex, age, religion, political beliefs or disability.
5. Computer-generated type and public domain computer clip-art may be used. All entries must be the original work of the entrant. If copyrighted material is used, separate written permission must be included. Failure to follow this procedure results in disqualification. This information must be inserted facing out behind the promotional graphic in the clear plastic page protector.
6. Any and all use of the TSA emblem must abide by TSA Trademark Policies as outlined in the National TSA webpage at www.tsaweb.org.
7. The winning entry may be used as a promotional poster for Engineering and Technology Education.

Evaluation:

Impact (25pts)

- ✓ Effectively represents Engineering and Technology Education, first impression.

Graphic (25pts)

- ✓ Is graphic appropriate? Are there any copyright images or graphics

Design Elements (20pts)

- ✓ Balance: visual weight of design elements (5 pts)
- ✓ Dominance: eyes are drawn to the main ideas of the design (5 pts)
- ✓ Proportion: size relationships within the design (5 pts)
- ✓ Unity: design elements flow together (5 pts)

Font (15 pts)

- ✓ Readability, eye appeal, size, placement, distracting or effective use of different styles, etc.

Technical (15 pts)

- ✓ Sharp clean edges of graphics and fonts clear of smudges, smears, pencil or other extraneous marks

NOTE: Georgia TSA reserves the right to make any changes to the design which may conflict with its production. All designs become property of Georgia TSA. When a participant enters a design, he or she relinquishes all rights for the sale and use of the design to Georgia TSA. All entries will become property of GA TSA.

GEORGIA TSA PIN DESIGN CHALLENGE

Objective: Participants design a lapel pin that can be used to promote Georgia TSA.

Entries are limited to three per chapter.

Procedures:

All graphics should be saved as a *jpeg or pdf file* with the file name *Pin_student's name* and put on a CD. A copy of each graphic should be printed, placed in a plastic sheet protector, and mailed with the CD containing the files. All graphics and CD's should be mailed to Georgia TSA following the guidelines on page 1.

Regulations:

The design must meet the following criteria:

1. Any and all use of the TSA emblem must abide by TSA Trademark Policies as outlined in the National TSA webpage at www.tsaweb.org.
2. There should be no use of copyrighted materials other than the TSA logo.
3. Participants will design a TSA pin that can be worn on blazers, jackets, shirts, sweaters, or blouses.
4. The pin must include the letters TSA. It must also include the shape and/or letters of the state of Georgia.
5. The design must be computer generated and submitted on 8 ½" x 11" paper and should include the design in both actual size and in an enlarged version to show detail.
6. The actual pin size will range from ¾" to 2". The size and amount of letters in the design should be taken into consideration for a letter on a 10 inch piece of paper will be reduced to 1/10 of an inch on a 1" pin. Therefore, less letter and greater size is recommended for a more legible pin.

Evaluation:

Impact (25pts)

- ✓ Effectively represents Georgia TSA.

Graphic (25pts)

- ✓ Is graphic appropriate?

Design Elements (20pts)

- ✓ Balance: visual weight of design elements (5pts)
- ✓ Dominance: eyes are drawn to the main ideas of the pin (5pts)
- ✓ Proportion: size relationships within the design (5pts)
- ✓ Unity: design elements flow together (5pts)

Font (15pts)

- ✓ Readability, eye appeal, size, placement, distracting or effective use of different styles, etc.

Technical (15pts)

- ✓ Sharp clean edges of graphics and fonts clear of smudges, smears, pencil or other extraneous marks.

NOTE: Georgia TSA reserves the right to make any changes to the design which may conflict with its production. All pin designs become the property of GA TSA. When a participant enters a design, he or she relinquishes all rights for the sale and use of the design to GA TSA. All entries will become the property of GA TSA.

ARCHITECTURAL DESIGN CHALLENGE

Objective: Participants design a floor plan using the current year's TSA Architectural Model problem. *The 2009 problem is to design a floor plan for an assisted living center for Alzheimer patients.*

Entries are limited to three per chapter.

Procedures: All graphics should be saved on a CD as a *pdf file* with the file name *Arch_student's name*. A copy of the floor plan should be printed, placed in a plastic sheet protector with the description placed behind it, and mailed with the CD containing the files. All graphics and CD's should be mailed to Georgia TSA following the guidelines on page 1.

Regulations:

The design must meet the following criteria:

1. The participants are to design an architectural floor plan that meets the current year's problem.
2. The drawing is to be submitted on maximum drawing sheet cut size B (11" x 17") with appropriate scale size noted on the drawing (1 page)
3. A written description of the style and merits of the design concepts must be included and should answer the following questions. (1 page)
 - a. How does your design meet the main requirements for the intended purpose?
 - b. What are the advantages of your layout?
 - c. Why have you included specific features?
4. A list of references should be placed behind the written description in the sheet protector (1 page)
5. No other views or drawings will be accepted.

Evaluation:

Design (50pts)

- ✓ Does the design incorporate features needed and required for the intended purpose?
- ✓ Is the layout logical and useful?
- ✓ Are the sizes of the rooms adequate for their purpose?

Quality (25 pts)

- ✓ Is the drawing neat and precise?
- ✓ Are rooms properly labeled?
- ✓ Are dimensions correctly placed?

Written Description (25pts)

- ✓ How does your design meet the main requirements for the intended purpose?
- ✓ What are the advantages of your layout?
- ✓ Why have you included specific features?

PROMOTIONAL TSA VIDEO CHALLENGE

Objective: Students develop, plan, and create a 20-30 second video to promote TSA on a state and local level. The video should not be school specific and should be applicable to all Georgia TSA chapters.

Entries are limited to one per chapter.

Procedures: All videos should be saved as an mpeg with the file name *video_student's name* and put on a CD. All videos and CD's should be mailed to Georgia TSA following the guidelines on page 1.

Regulations:

The video must meet the following criteria:

6. The video should be between 20-30 seconds.
7. The video should be applicable for all of Georgia TSA.
8. Where applicable, all ideas, text, images, and sound from other sources must be cited. If copyrighted material is used, proper written permission must be included. NOTE: Failure to follow this procedure results in disqualification. Georgia TSA gives permission for the use of any images from the Georgia TSA website.
9. All film footage must be the original work of the team and must have been completed within the current school year.
10. Some entries may be retained by Georgia TSA for promotional purposes. Photo/Video Consent and Release forms for any individuals included in the video footage must be mailed with the entry for each individual that participated in the video.
11. Below is a sample photo/video release statement that can be used:

I hereby give permission for images of my child, captured during Technology Student Association (TSA) activities through video, photo and digital camera to be used solely for the purposes of TSA promotional materials and publications, and I waive any rights of compensation or ownership thereto.

Name of participant (please print) _____
Name of parent/guardian (please print) _____
Parent/guardian's signature _____
Date _____

Evaluation:

Production (40pts)

- ✓ Story concept (10pts)
- ✓ Stylistic value (10pts)
- ✓ Camera techniques (10pts)
- ✓ Transitions and pace (10pts)

Impressions (30 pts)

- ✓ Creativity and originality (10pts)
- ✓ Technical attributes (10pts)
- ✓ Artistic and/or social value (10pts)

Overall impact (30 pts)

Possible Deductions:

- ✓ Time deduction – 5 points will be deducted for each 2 seconds the video goes over the time allotment.
- ✓ A 20 point rule violation will be given for any video missing the proper consent forms including the photo/video release forms and/or copyright release forms.

WEBPAGE DESIGN CHALLENGE

Objective: The theme for the 20th annual Georgia National Fair is "20 Year's of Georgia's Best." In this competition, students create a web site that invites Georgia's technology students to "Celebrate Georgia's Best" - to experience fun, excitement, and personal growth available through activities sponsored by GA TSA and showcase Georgia's best.

Entries are limited to one per chapter.

Procedures: All web sites must be submitted on a single CD-ROM. The media must be properly labeled with your name, address, phone number and your grade level, school name and county. Note to Mac users: Please submit entries on a PC formatted disc rather than a Mac formatted disc. All entrants must submit two (2) copies of their work on CD-ROM.

Mail copy of registration form and CDs to following the TSA postmarked deadline on page 1:

"TSA Web Site Challenge"
Georgia National Fairgrounds
PO Box 1367
Perry, GA 31069

Regulations:

1. The home page for your site must be named index.htm. Your home page text should also identify your name, age and school name.
2. All Web sites must contain no more than five (5) pages and be completely self-contained. Links to the World Wide Web will not be permitted and, if included, will disqualify your entry.
3. Entrant must obtain and submit written permission from the author or Web designer of any copyrighted materials used in the creation of the Web site.
4. The Georgia National Fairgrounds reserves the right to refuse any entries that may be offensive or obscene or that are deemed inappropriate for minors to view.

Evaluation:

Content (15pts)

- ✓ Does the web site accurately depict the theme?

Creativity (25pts)

- ✓ Does the Web site promote its content in an interesting manner

Quality (25pts)

- ✓ Includes the speed of site, reliability and accuracy
- ✓ Do the pages load quickly? Do the links work properly?

Interface (15pts)

- ✓ Is the site easy to navigate? Is the design clean and attractive?
- ✓ Can you link to the various pages without having to use the back or forward button on the browser?

Graphics (20pts)

- ✓ Does the Web site make effective use of graphics or do they distract the user?

SHIRT DESIGN CHALLENGE

Objective: To design a shirt that promotes TSA on the local chapter level.

Entries are limited to one per chapter.

Procedures: Students should submit a sample shirt ADULT SMALL on a wire hanger during the event check-in at the GNF.

Regulations:

The shirt design must meet the following criteria:

1. Original designs can be hand-drawn or computer generated. Computer-generated type and public domain computer clip-art may be used. All entries must be the original work of the entrant. If copyrighted material is used, separate written permission must be submitted.
2. Designs must contain the following:
 - a. Chapter's name
 - b. The words "Technology Student Association" (which can be incorporated into a TSA logo)
 - c. The theme "TSA: Tomorrow's Leaders"
3. Additional words other than those listed in Regulation 2 may be used in the design.
4. Any and all use of the TSA emblem must abide by TSA Trademark Policies as outlined in the National TSA webpage at www.tsaweb.org.
5. The design must be placed onto a shirt for submission. This can be done through a variety of processes including (but not limited to) screen printing, heat press, embroidery, sublimation.
6. The shirt design may be placed onto a t-shirt, a collared polo-style shirt, or any other style shirt (such as a Henley, long-sleeve t-shirt, sweat-shirt) in any color that compliments the design
7. The design may be on any part(s) of the shirt including the front, back, and sleeves.
8. A shirt in the size Adult Small should be submitted on a wire hanger. This size hangs well on a hanger allowing for easier judging of the shirt.
9. The process of placing the design onto the shirt may be completed by a commercial source.

Evaluation:

Overall appearance of shirt (20pts)

Creativity of design (20pts)

Effectiveness of shirt design (20pts)

Quality of design on shirt (20pts)

Inclusion of required elements (10pts)

- Chapter's name
- The words "Technology Student Association" (which can be incorporated into a TSA logo)
- The theme "TSA: Tomorrow's Leaders"

Following required submission procedures (10pts)

- Adult Small shirt
- Wire hanger
- Letter of permission if copyrighted materials are used

MEMBERSHIP RECRUITMENT CHALLENGE

Objective: Chapters members should work together to create a display that could be used to recruit new members to their TSA chapter. The theme of the display should be *TSA Membership Recruitment. Membership Recruitment Challenge will be judged both the middle school and high school levels. Places will be awarded for this event per level.*

Entries are limited to one per chapter.

Procedures: Students should submit their display during the event check-in at the GNF.

Regulations:

The Membership Recruitment Challenge display must meet the following criteria:

1. Display size is limited to 46" in width, 36" in height, and 18" in depth.
2. The entry should contain a display only. Extra printed materials should not be submitted with the display and will not be judged as a part of the project. (ie. brochures, flyers, etc)
3. Theme of the entry should be TSA Membership Recruitment.
4. Electricity will not be provided for the displays.
5. The top entries will be displayed during the Georgia National Fair; therefore, chapters must be prepared to leave their display in its entirety. *The use of expensive accessories (such as laptop computers, tape players, etc.) is strongly discouraged unless the team is prepared to leave the item for the duration of the Georgia National Fair. Neither the Georgia National Fair nor Georgia TSA will be responsible for these items.*

Evaluation:

Effectiveness of message (20pts)

Quality of construction (20pts)

Creativity of presentation (20pts)

General appearance (20pts)

Accuracy and appeal of information presented (20pts)

TRANSPORTATION MODELING CHALLENGE

Objective: The participant will experience the automotive design process from the concept phase to the making of a scaled model and testing, while considering appearance and performance by designing an appropriate vehicle suited to the stated automotive problem. This year's design problem is to design a *famous television or movie vehicle*. A Transportation Modeling Vehicle Design Kit can be obtained from PITSCO, INC. 1-800-835-0686 or www.pitsco.com.

Entries are limited to three per chapter.

Procedures: Students should submit their Transportation Modeling vehicles during the event check-in at the GNF.

Regulations:

The vehicle must meet the following criteria:

1. The body of the vehicle must be made from wood. *Additional parts such as body strengtheners, fenders, plastic canopy, exhausts, air foils, mirrors, and antennae may be attached to or enclosed with the vehicle and may be constructed from materials other than wood, excluding glass or liquid. These parts must be fastened securely unless they will be removed prior to the run. Any removable parts must be identified as removable on the drawing.*

2. **Building requirements:**

Specification Area	Minimum	Maximum
Body total width (including wheels)	None	4 inches
Body height with wheels	None	4 inches
Body mass (completed model without CO ₂)	None	2 pounds
Model must be design and built to a designer-specified scale between	1:16	1:24

3. **Cartridge Hole:** The power plant hole must be at the farthest point at the rear of the vehicle and must be drilled parallel to the race surface to assure proper puncture of the CO₂ cartridge.

Specification Area	Minimum	Maximum
Hole depth	2 inches	2 1/8 inches
Chamber thickness	1/8 inch	
Chamber diameter	3/4 inch	9/16 inch
Lowest point of chamber diameter to race surface with wheels	1 1/8 inches	1 5/8 inches

4. **Eye Screws** - Vehicle must have two eye screws that meet tolerances. They must not make contact with the racing surface. The track string must pass through both screw eyelets, which are to be located on the center line of the bottom of the vehicle. **Glue may be used to reinforce the eye screws.** *Although vehicles will not be raced, they should still contain the proper eye screws.*

Specification Area	Minimum	Maximum
Inside Diameter	1/8 inch	1/4 inch
Distance apart (at farthest points)	5 inches	none
Chamber diameter	3/4 inch	9/16 inch
Lowest point of chamber diameter to race surface with wheels	1 1/8 inches	1 5/8 inches

5. **Wheels** - Dimensions should be consistent with the scale of the body.
6. **No repair maintenance on entries will be allowed after the entries have been registered.** In the event that the vehicle was damaged by the conference personnel, the event coordinator will make a ruling as to whether or not the vehicle may be repaired by the student entering the vehicle.

Scoring Criteria: *The model only will be judged. Vehicles will not be raced.*

Appropriateness to problem (40 pts)

Model Appearance (60 pts)

Rule violations will be a deduction of 20pts.

STRUCTURAL CHALLENGE

Objective: Participants will research, model, and test a tower designed to hold the greatest load. Students should build a tower. The tower will be built prior to the event and tested on-site.

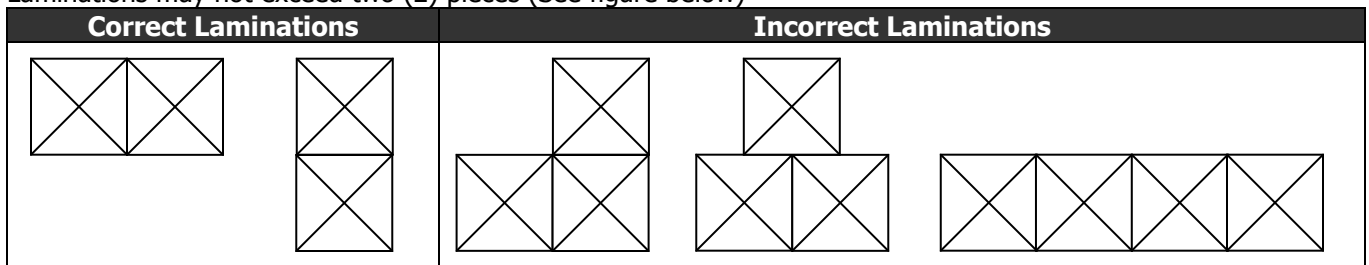
Entries are limited to three per chapter.

Procedures: Students should submit a sample shirt on a hanger during the event check-in at the GNF.

Regulations:

The structure must meet the following criteria:

1. The structure materials are limited to 20 feet of 1/8 inch by 1/8 inch balsa wood, glue, and the base plate.
2. The base plate must be 3"x3" and 1/4" thick and have a SINGLE 1/2" diameter hole drilled through its center.
3. A drawing must be submitted with the structure. (Drawings will be judged in case of a tie.)
4. The height of the structure should be 10 inches (a 1/4" tolerance will be allowed without deductions.)
5. The center of the structure must provide passage for a 1 1/4 inch test rod. Structures that do not allow passage will not be tested.
6. The width of the structure should not exceed 5"x5".
7. The structure must be glued on top of the base plate.
8. The tower must support a 3"x3"x3/4" test block at the top of the tower (this test block will be provided on-site during testing).
9. The structure may not exceed 45 grams in weight (base plate included).
10. The structural testing device will be the PITSCO D12000. The type of tester is subject to change though, at the discretion of GA TSA.
11. Laminations may not exceed two (2) pieces (See figure below)



Evaluation:

All structures are destructively tested by attaching a testing device to the test block and adding resistance until the structure fails. The Final Weight will be used to calculate the finalist in this event. Final Weight is calculated by taking the Weight Held minus any Deductions. Drawings will be judged in the event of a tie.

Deductions of 20% of the greatest weight held in the event are given for:

- ✓ Failure to submit a drawing.
- ✓ Excessive use of glue (smears or spots that are larger than 3/8" in width/ diameter or structural elements that are coated with glue).
- ✓ The tower is not glued to the base plate.
- ✓ The tower is 1/4" less than or 1/4" greater than the height.

Structures are not tested if any materials other than those specified are used.

- ✓ Center is blocked.
- ✓ Test block will not rest on top.
- ✓ Tower is less than 1" less than or 1" greater than the specified height.
- ✓ Illegal laminations occur.
- ✓ Weight of structure exceeds 45 grams.
- ✓ More than two (2) rule violations are present.

GREEN DESIGN CHALLENGE

Objective: Participants will construct a "shelf-ready" prototype of a product that can be made using at least 75% post-consumer/recycled materials. *This 2009 problem is to design a "desk organizer".*

Entries are limited to two per chapter.

Procedures: Students should submit their projects during the event check-in at the GNF.

Regulations:

The design must meet the following criteria:

1. The display size is limited to 3' wide x 3' high x 2' deep.
2. Each entry must include a single "shelf-ready" product contained and submitted in its packaging (Judges must be able to remove the product from its packaging.)
3. The prototype must be a full size working model.
4. Only original products designed by the participant may be entered.
5. The product must not include combustible engines or flammable fuels.
6. The product must not require external AC power. Batteries may be used.
7. Packaging for the product must be included.
8. The following information should be placed in a 3 ring binder, presentation folder, or bound together in the following order:
 - a. Cover Page – including the event name and the product name
 - b. Product Description – including a description of the product, Operating Instructions, its need or intent, and related safety considerations (1 page)
 - c. Construction Information – including a Bill of Materials (indicate which materials are post consumer/recycled) and a list of tools and machines used for production (1 page)
 - d. Orthographic Drawing of the Product (1 page)
 - e. Production Plan (pages as needed)

Evaluation:

Prototype (50pts)

- ✓ Craftsmanship (5pts)
- ✓ Product function (10pts)
- ✓ Product solution (10pts)
- ✓ Aesthetics (5pts)
- ✓ Originality (10pts)
- ✓ Overall quality (10pts)

Documentation (50pts)

- ✓ Cover sheet (1pt)
- ✓ Table of contents (1pt)
- ✓ Description of product including its need or intent (8pts)
- ✓ Operating instructions (5pts)
- ✓ Safety considerations (5pts)
- ✓ Working drawing (10pts)
- ✓ Bill of materials (4pts)
- ✓ Tool and machine list (1pts)
- ✓ Production plan (15pts)

