

▪ **TO DO:**

- **Goals for Sprint 2**
- **Sprint 2 Calendars**
- **Product/Target Specifications**
- **The Product Architecture Drawings**
- **Choose final concept & refine design requirements based on feedback**
- **Modify design requirements to create target specifications – at least one must reflect productivity!**
- **Start on Product Architecture Drawings**
- **Start thinking about materials**

▪ **LOOKING AHEAD:**

- **Week 6 BEEST due – 10/5 @ 11:59pm.**
- **Week 7 BEEST due – 10/12 @ 11:59pm.**

Turn
these in
before
you leave



WEEK 7
DAY 1

Welcome to
Sprint 2



Documentation from this Sprint goes in
“5. Development of the Design”

WEEKS 1-3

Project Pitch

WEEK 4-6

SPRINT 1 REVIEW

WEEKS 7&8

SPRINT 2 REVIEW

WEEKS 10-13

SPRINT 3 REVIEW

WEEK 15-16

IDENTIFICATION & JUSTIFICATION OF THE OPPORTUNITY

- Accessibility Simulation & Design Theme
- Ethnography & Site Observation Activity
- Opportunity Proposals
- Team formation, mission statements, team logo & team charters
- Identify primary Subject Matter Expert (SME)
- Background/Rationale Research
- **PROJECT PITCH PREP**
- **BINDER CHECKS**
- **PART 1 of IPP**

SPRINT 1

- Outcome-driven Innovation & customer needs statements
- Compile "Must do, might do, must NOT do" requirements
- Patent Searches, Market Research
- Concept Generation activities
- Concept Screening & Selection, Decision matrices
- Prototyping in Design
- Mock-up (small scale, Level 1) prototypes of top 2 concepts to gather customer feedback
- **SPRINT REVIEW PREP**
- **BINDER CHECKS**

SPRINT 2

- Final concept selection based on feedback
- Iterate Design Requirements based on feedback
- Quantify at least one design requirement into a target specification related to customer productivity
- Revise design and build next level prototype (full scale)
- Create bill of materials with cost, place material orders
- Gather customer feedback including price
- **SPRINT REVIEW PREP**
- **BINDER CHECKS**
- **PART 2 of IPP**

SPRINT 3

- Iterate Design Requirements based on feedback
- Revise and/or add additional quantifiable target specifications
- Revise bill of materials with cost
- Final product architecture drawing (with component info)
- BOM & Target Costing
- Build Final Prototype
- Robust Design & Product Testing
- Test final prototype and gather customer feedback
- **SPRINT REVIEW PREP**
- **BINDER CHECKS**
- **PART 3 of IPP**

FINAL SPRINT

- Final product refinements based on feedback and test data
- Deliver the working prototype to the customer
- **FINAL BINDER CHECKS**
- **FINAL INDIVIDUAL PROJECT PAPER (IPP)**
- **FINAL PROTOTYPE**
- **FINAL EXPO POSTER**
- **FINAL EXPO VIDEO**

Photo Documentation of the Design Process

PROJECT TIMELINE

EGE 2123 Entrepreneurial Engineering Design Studio

By the end of Sprint 2, your team will:

- **Choose final solution concept to pursue**
- **Revise design requirements based on customer feedback**
- **Create target specifications**
- **Create a Product Architecture document**
- **Create a Bill of Materials**
- **Build a full scale (Level 2) model for customer feedback and potential pricing information**

GOALS FOR SPRINT 2 WEEKS 7-9

SPRINT 2

- Final concept selection based on feedback
- Iterate Design Requirements based on feedback
- Quantify at least one design requirement into a target specification related to customer productivity
- Revise design and build next level prototype (full scale)
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THE ENGINEERING DESIGN PROCESS

COMMUNICATE
your solution

ITERATE
to improve
your prototype

TEST
and evaluate
your prototype

DEFINE
the problem

IDENTIFY
constraints on your
solution (e.g. time, money,
materials) and criteria
for success

BRAINSTORM
multiple solutions
for the problem

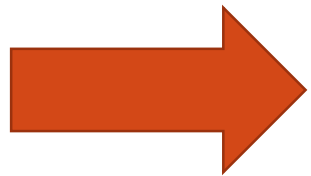
SELECT
the most
promising solution

PROTOTYPE
your solution

**YOU
ARE
HERE**



- **How can customer needs/design requirements be translated into precise targets for the design work?**
- **How can the team agree on what constitutes success or failure of the design?**
- **How can the team resolve trade offs among inevitable product characteristics?**



We need specifications!



- **How are these different from your design requirements you already have?**
- **Derived from all of the design requirements you have created so far but takes them to the next level!**
- **Represent quantifiable, unambiguous agreement on what the team will consider a successful design that meets their design requirements and customers' needs.**

WHAT ARE SPECIFICATIONS?

A set of requirements that spell out in precise, measurable detail *WHAT* the product has to do.



- A specification consists of a metric and a value.
- Metric = precise, directly observable, measurable characteristic of the product that reflects the degree to which a requirement has been met.
- How do we express the value of a metric? A number and units
- Examples:
 - Average time to assemble = METRIC } specification
 - Less than 75 seconds = VALUE

 - Total mass = METRIC
 - < 1.4 kg = VALUE

WHAT ARE SPECIFICATIONS?



TARGET SPECIFICATIONS FOR BIKE SUSPENSION FORK

| | METRIC | Units | Value |
|----|---|----------|---------------------------------|
| 1 | Attenuation from dropout to handlebar at 10hz | dB | >12 |
| 2 | Spring pre-load | N | 650 |
| 3 | Maximum value from the Monster | g | <3.4 |
| 4 | Minimum descent time on test track | s | <11.5 |
| 5 | Damping coefficient adjustment range | N-s/m | >100 |
| 6 | Maximum travel (26in wheel) | mm | 43 |
| 7 | Rake offset | mm | 38 |
| 8 | Lateral stiffness at the tip | kN/m | >75 |
| 9 | Total mass | kg | <1.4 |
| 10 | Lateral stiffness at brake pivots | kN/m | >425 |
| 11 | Headset sizes | in | 1.000 1.125 |
| | | | 150 170 190 210 230 |
| 12 | Steertube length | mm | 230 |
| 13 | Wheel sizes | list | 26in |
| 14 | Maximum tire width | in | >1.75 |
| 15 | Time to assemble to frame | s | <45 |
| 16 | Fender compatibility | list | Zefal |
| 17 | Instills pride | subj | >4 |
| 18 | Unit manufacturing cost | US\$ | <80 |
| 19 | Time in spray chamber w/o water entry | s | >3600 |
| 20 | Cycles in mud chamber w/o contamination | k-cycles | >25 |
| 21 | Time to disassemble/assemble for maintenance | s | <200 |
| 22 | Special tools required for maintenance | list | hex |
| 23 | UV test duration to degrade rubber parts | hours | >450 |
| 24 | Monster cycles to failure | cycles | >500k |
| 25 | Japan Industrial Standards test | binary | pass |
| 26 | Bending strength (frontal loading) | MN | >100 |

SAMPLE TARGET SPEC DOCUMENT



From Product Design and Development by Karl Ulrich and Steven Eppinger (McGraw-Hill/Irwin)



HOW DO WE CREATE TARGET SPECIFICATIONS?



REFLECT, REFINE, IMPROVE



| <u>Design Requirement</u> | <u>Metric</u> | <u>Units of Measure</u> | <u>Value</u> |
|---------------------------|-----------------------|-------------------------|-----------------------|
| 1. | a. b. c. ... | a. b. c. ... | a. b. c. ... |
| 2. | a. b. c. ... | a. b. c. ... | a. b. c. ... |
| ... | | | |

Guidelines for Values:

1. **At least X** – establishes lower bound but higher is better.
2. **At most Y** – establishes an upper bound but lower is better.
3. **Between X and Y** – establish upper and lower bounds.
4. **Exactly X** – any deviation from exact value means lower performance (very constraining)
5. **Discrete Values of X** – like S, M, L



Example of Target Specifications in EGE 2123

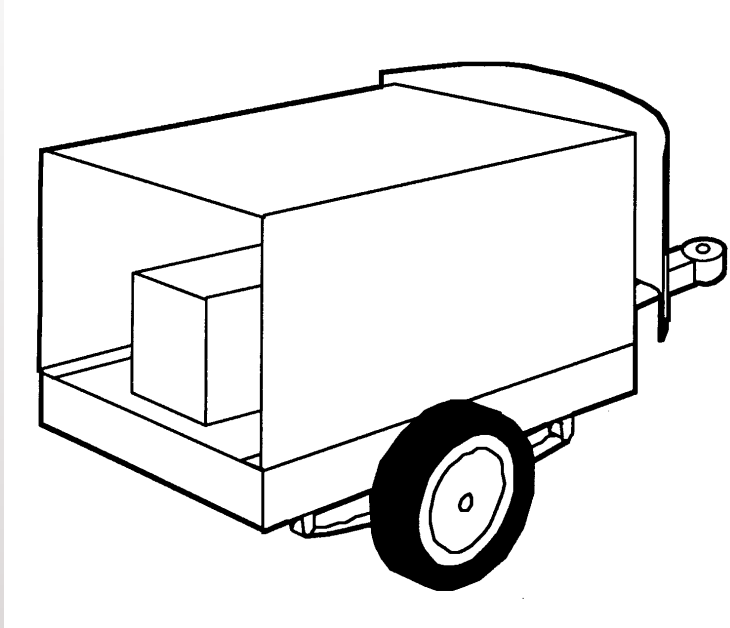
| Design Requirement | Metric | Unit of Measure | Value |
|---------------------------------|--|-------------------------------------|--|
| Increase Productivity | Time per Bottle | Seconds | Average Time < 18.2 s (Current Average) |
| Reduce Back Pain | Survey - "Better or Worse?" | % People who Say it's Better | 50% or More Say it's Better |
| Reduce Wrist Pain | Survey - "Better or Worse?" | % People who Say it's Better | 50% or More Say it's Better |
| Custom Set-Up | Adjustable Components for Parts in Reach | ft. and in. | In Reach of Customer (< ≈3ft) |
| Decrease Bending/Reaching | Height Differences | ft. and in. | < Current Reaching Distance of 3ft |
| Conserves Space in Aisles | Surface Area of Work Area | ft ² and in ² | < Current Space Usage of 24 ft ² |
| Access to the Bottles | L x W x H of Boxes Used | ft. and in. | At Least 20.75 x 23 x 19.5 |
| Final Cart | L x W x H of Cart | ft. and in. | Accommodate Box Size- (20.75 x 23 x 19.5) |
| Less than \$200 | Amount of Money | Dollars (\$) | < \$200 |
| Less than 10 Components | Number of Components | Number (#) | < 10 Parts |
| Materials from Approved Vendors | Approved or Not | % Approved Receipts | 100% |

- **The assignment of the functional elements of a product to the physical building blocks of the product.**

| Physical Elements | Functional Elements |
|---|---|
| Parts, components, subsystems that implement the product's functions | Individual operations and transformations that contribute to the overall performance |

WHAT IS PRODUCT ARCHITECTURE?





Physical

Functional

| | |
|---------|----------------------------|
| box | protect cargo from weather |
| hitch | connect to vehicle |
| fairing | minimize air drag |
| bed | support cargo loads |
| springs | suspend trailer structure |
| wheels | transfer loads to road |

TRAILER EXAMPLE: MODULAR ARCHITECTURE

- **The purpose is to define the basic building blocks of the product in terms of what they do and how they interface with the rest of the device.**
- **Allows detailed design and testing of the individual building blocks to be assigned to different teams and carried out simultaneously – divide and conquer!!**

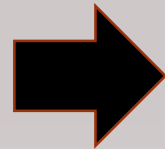


MODULAR PRODUCT ARCHITECTURES



Best Case Scenario:

- **Each component (module) implements only one function**
- **Interactions between modules are few and well-defined**



Allows a design change to one module without requiring changes to other modules.



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**WEEK 7
DAY 1
RECAP**



**Welcome to
Sprint 2**

**Documentation from this Sprint goes in
“5. Development of the Design”**



- **TO DO:**

- **Building the Level 2 Prototype**
- **The Bill of Materials and ordering supplies**
- **Work Time – Product Architecture, BOM, Building Level 2 Prototype**
- **Discuss first drafts of Product Architecture & BOM before you leave**

- **LOOKING AHEAD:**

- **BOM must be finalized by the end of next class**
- **Week 6 BEEST due – 10/5 @ 11:59pm.**
- **Week 7 BEEST due – 10/12 @ 11:59pm.**

WEEK 7 DAY 2



LEVEL 2 PROTOTYPE

PROTOTYPING IN EGE 2123

In our course we will be creating prototypes at *three different stages* of our design process:

Small-scale Mock-Up (Level 1)

- Small-scale model used to communicate and compare concept alternatives (you will build & compare your 2 selected concepts)
- Used to represent *form* of design concept for feedback
- Typically built with cardboard, tape, clay, re-purposed materials, etc.



Full-scale Mock-Up (Level 2)

- Full-scale model of final concept selected
- Provides more emphasis on *function* of design concept
- May be built with materials similar to scaled model but may also included 3D printed parts, off-the-shelf components from hardware store, etc. to create a more functional model
- Used to provide the customer a hands-on experience while gathering feedback



Working Prototype (Level 3)

- Full-scale, fully-functional final design built according to the product architecture assembly drawings and the detail design drawings, using materials and fabrication methods specified on the bill of materials.
- Should be robust enough so that customer would be able to use this prototype.
- Will be used to demonstrate your design at the final milestone review.



TEAM NAME _____ DATE _____

EGE 2123: Entrepreneurial Engineering Design Studio

BILL OF MATERIALS and ORDER SUBMISSION FORM

Must be completed and submitted before you leave class today. Include a screenshot of each component OR of your cart (DON'T PLACE ANY ORDERS YOURSELVES).

| | <u>COMPONENT</u> | <u>VENDOR</u> | <u>ITEM NAME²</u> | <u>Description²</u> | <u>Quantity</u> | <u>Price/Unit</u> |
|---|------------------|---------------|------------------------------|--------------------------------|-----------------|-------------------|
| 1 | | | | | | |
| 2 | | | | | | |
| 3 | | | | | | |
| | | | | | | |

- **Complete one row for every component (even if you will fabricate it).**
- **Talk with the instructors when you think you have this complete.**
- **Raw materials for fabrication can be purchased directly and will be reimbursed with valid receipts.**

BILL OF MATERIALS AND ORDERING PREP



APPROVED VENDOR LIST

| PRODUCTS | VENDOR | WEB ADDRESS |
|-----------------------------------|----------------|---------------------|
| Miscellaneous | AMAZON PRIME** | www.amazon.com |
| Electronics, 3D printing supplies | Micro Center | www.microcenter.com |
| Office Supplies | Staples | www.staples.com |
| Plastics, Metal Supplies | McMaster-Carr | www.mcmaster.com |
| Hardware | Home Depot | www.homedepot.com |

To ensure prompt delivery of your building materials, pay special attention on *Amazon* to **only those items that are included in the *Amazon Prime* category**. If the item is not Amazon Prime choose another vendor to secure your items in a timely manner. You don't want to be sitting around waiting for your components to be delivered while you're supposed to be building.

Please attach a screen capture of your cart(s) containing all products you wish to order directly to your **Bill of Materials/Order Submission** form.





Amazon's Choice

Amram Comfort Grip Standard Tag Attaching Tagging Gun | Fasteners Barbs

by AMRAM

\$11.59 ~~\$15.99~~ Prime



Get it by **Monday, Mar 20**

FREE Shipping on eligible orders

More Buying Choices

\$11.59 (2 new offers)

AMAZON ORDERS

Be sure the item
that you are
ordering is
designated as



- On the item description page find the ASIN #
- Include the ASIN # in the 'Description' column of your **Bill of Materials/ Order Submission** form

Additional Information

| | |
|------------------|--|
| ASIN | B00PWQILU8 |
| Customer Reviews | ★★★★☆ 1,260 customer reviews 4.3 out of 5 stars |



For metal & plastic components first try Home Depot...

The screenshot shows the McMaster-Carr website interface. At the top, there is a search bar with the text "Find" and a magnifying glass icon. To the right of the search bar are navigation links: "CONTACT US", "ORDER", "ORDER HISTORY", and "LOG IN". Below the search bar is a sidebar on the left titled "Choose a Category" with a list of categories including "Abrading & Polishing", "Building & Grounds", "Electrical & Lighting", "Fabricating", "Fastening & Joining", "Filtering", "Flow & Level Control", "Furniture & Storage", "Hand Tools", "Hardware", "Heating & Cooling", "Lubricating", "Material Handling", "Measuring & Inspecting", "Office Supplies & Signs", "Pipe, Tubing, Hose & Fittings", "Plumbing & Janitorial", and "Power Transmission". The main content area is titled "All Categories" and features a grid of product categories. The "Fastening & Joining" category is expanded, showing sub-categories like "Fasteners", "Adhesives & Tape", and "Welding, Brazing & Soldering". Each sub-category contains a grid of small product images with labels. For example, the "Fasteners" sub-category includes "Screws & Bolts", "Threaded Rods & Studs", "Eyebolts", "U-Boils", "Nuts", "Washers", "Shims", "Helical & Threaded Inserts", "Spacers & Standoffs", "Pins", and "Anchors". The "Adhesives & Tape" sub-category includes "Adhesives", "Tape", and "Hook & Loop". The "Welding, Brazing & Soldering" sub-category includes "Electrodes & Wire", "Welders", "Gas Regulators", "Welding Gloves", "Welding Helmets & Glasses", "Protective Screens", "Brazing Alloys", "Torches", "Solder", "Soldering Irons", and "Melting Pots". Below the "Fastening & Joining" section is the "Pipe, Tubing, Hose & Fittings" section, which includes a grid of product images with labels such as "Pipe Fittings & Pipe", "Pipe Hangers", "Pipe Joints", "Pipe & Tube Repair Clamps", "Pipe Flange Spreaders", "Tubing", "Tube Fittings", "Tube Cutters", "Tube Flaring Tools", "Tube Benders", "Manifolds", "Hose", "Hose Fittings", "Hose Nozzles", "Hose & Tube Clamps", "Hose Reels", and "Tank Fittings". At the bottom of the main content area is the "Power Transmission" section.

- Check out the vast array of products that McMaster-Carr offers, both plastic and metal.

McMASTER-CARR



- Files for printing **MUST** be exported in **.STL** format.
- Be sure you consider the printer build capacity when deciding if your part should be 3D printed or fabricated otherwise.



Submit your .stl files
to instructor on flash drive.

**Did you
consider 3D
printing??**



The SourceAmerica Design Challenge is a national engineering competition to design workplace technology for people with disabilities. High school and college students team with an organization that employs people with disabilities or an individual with a disability to invent a process, device, system, or software that creates a more productive work environment. This service learning opportunity develops engineering, communication, writing, math, presentation, and social skills while helping the community and competing for cash prizes.

**One of the
previous winners:**

[Source America Design Challenge
Previous Winner](#)

SourceAmerica
DESIGN
CHALLENGE

**Designing Technology
So Everyone Can Work**



— General Requirements

- Each student team must register on the SourceAmerica Design Challenge website.
- Your team must include a student leader, student team members, a coach and a subject matter expert (SME). The SME is the person with a disability who will use your invention.
- High school teams must be comprised of high school students and collegiate teams must be comprised of college students. However, students do not have to be enrolled in the participating school. They may also be home-schooled or a part of a community club.
- Each team must develop a piece of technology and/or a process designed to overcome a workplace obstacle for a person with a disability.
- Each team is required to meet all mandatory deadlines and submit all appropriate materials described in the timeline.
- Your invention or process must be tested, used by your SME and implemented in the workplace. Projects must be workplace/employment-related or they will be disqualified.





Registration: August 29 to October 11, 2017

- The **student team leader** must [register](#) for the Design Challenge between August 29 and October 11, 2017. After registering, your student team leader will receive a team login and password for our file sharing system, Egnyte. This will allow you to upload your documents and project at the appropriate deadlines. The file sharing system can be found at <https://designchallenge.egnyte.com>.
- Each team and the coach will have access to the team's folder. Coaches with multiple teams will have access to folders for all their teams; however, each team leader will only have access to his or her team's folder.
- To start your project, use your team's information to log into the [Egnyte portal](#), download the required forms from the "Forms" folder and upload the completed forms to your team folder.





**Select your team
leader and go to
the web-site:**

<https://www.sourceamerica.org/design-challenge/student-teams>

Design Challenge Registration

[Home](#) [Registration](#) [Student Teams](#) [Nonprofit Agencies](#) [Winners](#) [In the News](#) [FAQs](#) [Contact Us](#)

- Only one registration is needed per team.
- Have the team leader register on behalf of the team by filling out the form below.
- The team leader will receive the team login to Egnyte via email. This login and password is to be shared by the team.
- For assistance with registering, please contact Charissa Garcia at cgarcia@sourceamerica.org.

Are you registering as a high school or college team? *

- Select -

Team Name *

Please remember this is how your team will be referenced in announcements and press releases. For example, "The Lincoln High Engineers" sounds a bit better than "Team 12." Be creative but professional.

Team Leader's First Name *

Your team leader is a **student** who will manage the team throughout the project.

Team Leader's Last Name *

Team Leader's Email *

Team Leader's Phone Number *

Coach's First Name *

Your coach will be a **teacher, counselor** or **interested adult** who will guide your team of students throughout the project

Coach's Last Name *

Coach's Email *

Coach's Phone Number *

Organization (School or Group Name) *

School Address *

School City *

School State *

- Select -

School Zip *

Has your organization participated before? *

- Select -

How did you learn about the SourceAmerica Design Challenge? *

Submit

WEEK 7 DAY 2 RECAP

- **TO DO:**
 - **Building the Level 2 Prototype**
 - **The Bill of Materials and ordering supplies**
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■ **TO DO:**

- **Entering the Source America Design Challenge – must be done before you leave today! (M/W ONLY)**
- **Bill of Materials – must be finalized today! Turn in before you leave so we can get supplies ordered.**
- **Work Time – Product Architecture, BOM, Building Level 2 Prototype**

■ **LOOKING AHEAD:**

- **Week 7 BEEST due – 10/12 @ 11:59pm**
- **Week 8 BEEST due – 10/19 @ 11:59pm**
- **Part 2 of IPP due – 10/22 @ 11:59pm**

**WEEK 8
DAY 1**



**KEEP
CALM
YOU'RE
HALFWAY
THROUGH**



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School Address *

School City *

School State *

- Select -

School Zip *

Has your organization participated before? *

- Select -

How did you learn about the SourceAmerica Design Challenge? *

Submit

Soon after submitting the registration form, the team leader will receive an email with an invitation to create your EGNYTE file-sharing account...



- When you login to EGNYTE, find the folder [2016-17 College Design Challenge](#)
- Find the [Forms and Instructions](#) folder
- Access the [For Registration](#) folder

Within the folder you access the remaining forms, documents, survey link, and instructions to complete your team's registration.



Shared » 2016 -2017 College Design Challenge » Forms and Instructions » For Registration

Upload Download Send Copy Move Delete Rename New Folder Folder Permissions Embed Tag Lock Unlock Restore Defaults List View

| Type | File Name | Date | Size (KB) | Owner | Note | Tag | Info |
|------|---|-----------------|-----------|-----------------|------|-----|------|
| | DAworksheet.docx | Sep/09/16 19:40 | 85 | Charissa Garcia | | | |
| | Media Release Instructions.docx | Sep/09/16 19:40 | 14 | Charissa Garcia | | | |
| | Media Release.pdf | Sep/09/16 19:02 | 619 | Charissa Garcia | | | |
| | MentorSummary.docx | Sep/09/16 19:41 | 85 | Charissa Garcia | | | |
| | Roster (1).xlsx | Sep/09/16 19:41 | 16 | Charissa Garcia | | | |
| | Roster Instructions.docx | Sep/09/16 19:26 | 54 | Charissa Garcia | | | |
| | SAworksheet.docx | Sep/09/16 19:28 | 85 | Charissa Garcia | | | |
| | Survey and Instructions.docx | Sep/09/16 19:44 | 13 | Charissa Garcia | | | |



Document 1



Disability Awareness Worksheet

Directions:

- Fill out one sheet per team
- Answer each of the following questions in your own words. Maximum 5 sentences each.
- Once completed save the worksheet as "DAworksheet_TEAM ID#"
- Then upload the completed worksheet to your team folder.
- Access your team folder by navigating to Shared » 2016-2017 High School Design Challenge or Shared » 2016-2017 College Design Challenge and finding your team ID number.

1. What does people first language mean?
2. What is the JWOD act?
3. What is the Americans with Disabilities Act?
4. What are some of the barriers you see in the workplace for people with disabilities?
5. Name three common technologies that help people with disabilities at work.
6. The unemployment rate for people with disabilities is high. Why do you think that is?

DAWorksheet.docx

(Must upload completed worksheet into team folder, see specific naming convention at left)

In your team binders you have the Source America Disability Awareness handout.

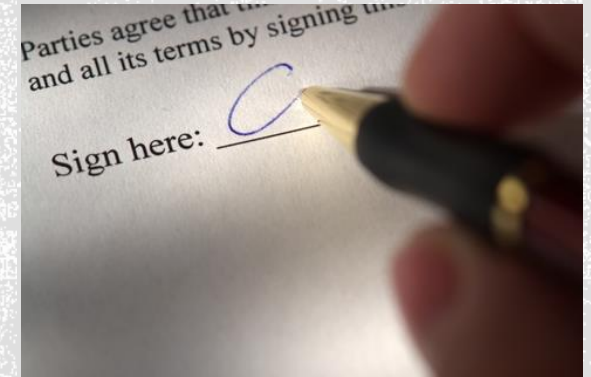


Document 2

- ✓ Download the form: **Media Release.pdf**
- ✓ Each team will need a form signed for:
 - Each team member
 - Both instructors (coaches)
 - Your identified SME (may be Steve, Tim, supervisor or STEP client, etc. --- anyone who may appear in photos or in the video showing the final working prototype).
- ✓ Name the PDF file containing ALL signed Media Release Forms: **“Media_Release_Forms_Team#”**
- ✓ Upload this PDF file containing all the signed releases into the team folder.

MEDIA RELEASE FORMS

All release forms must be scanned into a **single PDF document** (see naming convention at left)



Document 3



SourceAmerica Mentor Meeting Summary

Directions:

- Fill out one sheet per team.
 - Answer each of the following questions in your own words. Maximum 5 sentences each.
 - Your mentor can be one of the SourceAmerica Engineers, a person at the nonprofit agency or someone acting in as an advisor. Your mentor is typically someone other than your coach but in the situation were an additional person is not available you may use your coach as your mentor.
 - **Once completed save the worksheet as "MentorSummary_TEAM ID#"**
 - Then upload the completed worksheet to your team folder.
 - Access your team folder by navigating to Shared » 2016-2017 High School Design Challenge or Shared » 2016-2017 College Design Challenge and finding your team ID number.
-
1. What is the name of your SourceAmerica mentor?
 2. When did you communicate with your mentor?
 3. How did you communicate with your mentor? (Phone, Email, Etc)
 4. Explain how your mentor helped you.

MentorSummary.docx

(Must upload completed worksheet into team folder, see specific naming convention at left)

Your team can choose either Steve Slayton or Tim Kachmarik (STEP) or Dr. Huff or Prof. Morano as your mentor.



Document 4

- Team Name
- Team ID: This team ID # was emailed to the team leader who originally registered the team.
- School name, address, and phone #
- Non-profit: Services to Enhance Potential (STEP)
32229 Schoolcraft Road
Livonia, MI 48150
- Each team member:
 - ✓ FIRST and LAST NAME (Legal names required for travel arrangements for Finalists.
 - ✓ Home address of each team member (this will be the address any monetary prize would be mailed to).
 - ✓ Email and phone #'s
- For coaches, please use LTU address, email, and phone #'s:
 - ✓ Heidi Morano hmorano@ltu.edu (248) 204-2588
 - ✓ Cristi Bell-Huff cbellhuff@ltu.edu (248) 204-2609

TEAM ROSTER

The roster will be saved as an Excel file, not a PDF.

| | A | B | C | D | E | F | G | H | I |
|----|-------------------|-----------------------|-----------|----------------|--------|-------|--------------------------|-------|----------------------|
| 1 | | | | | | | | | |
| 2 | | | | | | | | | |
| 3 | | | | | | | | | |
| 4 | Team Name | Example Team | | | | | | | |
| 5 | Team ID# | 1000 | | | | | | | |
| 6 | | | | | | | | | |
| 7 | Title | First Name | Last Name | Street | City | State | Zip Code | Phone | Email |
| 8 | High School | Happy High School | | 123 Happy Lane | Vienna | VA | 22182 123 123 1234 | | |
| 9 | Nonprofit | Amazing Nonprofit Inc | | 123 Main Road | Vienna | VA | 22182 703 584 3940 | | |
| 10 | Coach | Bobby | Joe | 123 Happy Lane | Vienna | VA | 22182 123 123 1234 | | Happy@HappyHS.edu |
| 11 | Nonprofit Contact | Jane | Smith | 123 Main Road | Vienna | VA | 22182 703 584 3940 x 123 | | Smith@AmazingInc.org |
| 12 | SME | | | | | | | | |
| 13 | Team Leader | | | | | | | | |
| 14 | Team Member 1 | | | | | | | | |
| 15 | Team Member 2 | | | | | | | | |
| 16 | | | | | | | | | |
| 17 | | | | | | | | | |

Document 5



Who is SourceAmerica Worksheet

Directions:

- Fill out one sheet per team.
- Answer each of the following questions in your own words. Maximum 5 sentences each.
- **Once completed save the worksheet as "SAworksheet_TEAM ID#"**
- Then upload the completed worksheet to your team folder.
- Access your team folder by navigating to Shared » 2016-2017 High School Design Challenge or Shared » 2016-2017 College Design Challenge and finding your team ID number.

1. What is the mission of SourceAmerica?
2. What is the AbilityOne program?
3. What kind of jobs are created for people with disabilities through the AbilityOne program?

SAWorksheet.docx

(Must upload completed worksheet into team folder, see specific naming convention at left)





When you have all 5 documents uploaded into your team folder, the final step for registration is to take a pre-project survey.

Pre-Project Survey Instructions:

Please have each student take the following survey:

<https://www.surveymonkey.com/r/7TD2JG9>

Only the students need to take the survey.

▪ **TO DO:**

- **Mid-Project Teamwork Assessments**
- **Work Time – Product Architecture, BOM, Building Level 2 Prototype**
- **Finish the Level 2 Prototype by next class**

▪ **LOOKING AHEAD:**

- **Week 7 BEEST due – 10/12 @ 11:59pm**
- **Binder Check #3 – NEXT CLASS**
- **Sprint 2 Reviews – 10/18 (M/W) and 10/19 (T/Th)**
- **Week 8 BEEST due – 10/19 @ 11:59pm**
- **Mid-Project Teamwork Assessments – due 10/18 @ 11:59pm**
- **Part 2 of IPP due – 10/22 @ 11:59pm**

**WEEK 8
DAY 2**



**KEEP
CALM
YOU'RE
HALFWAY
THROUGH**



You've made it about half way...

50%...

Good time to reflect on how the team is functioning...

On Blackboard, under the Assignment tab, find:



Collaborative Work Skills: Teamwork Evaluation

Availability: Item is not available. It will be available after Feb 21, 2017 1:30 PM.

This survey serves to provide the instructors with confidential feedback as to how your team is functioning. Do not discuss how you scored each other. Confidentiality is needed to ensure scores reflect performance and not personal relationships among students.

Each team member will evaluate *themselves* AND every member of their team in each of the categories:

- Working with Others
- Focus on the Task
- Attitude
- Time-management
- Quality of Work
- Contributions
- Problem Solving

COLLABORATIVE WORK SKILLS:

Teamwork Evaluation



- **TO DO:**

- **Requirements for Sprint 2 Review**
- **In Class Consulting Day with Prototypes**
- **Binder Check #3**
- **Work Time – Sprint Review Prep, Teamwork Assessments, etc.. (there is plenty to do!)**

E-mail slides by 11 am that day

- **LOOKING AHEAD:**

- **Sprint 2 Reviews – 10/18 (M/W) and 10/19 (T/Th)**
- **Week 8 BEEST due – 10/19 @ 11:59pm**
- **Mid-Project Teamwork Assessments – due 10/18 @ 11:59pm**
- **Part 2 of IPP due – 10/22 @ 11:59pm**

WEEK 9 DAY 1



- **TO DO:**

- **SPRINT 2 Reviews**

- **LOOKING AHEAD:**

- **Week 8 BEEST due – 10/19 @ 11:59pm**
- **Mid-Project Teamwork Assessments – due 10/18 @ 11:59pm**
- **Part 2 of IPP due – 10/22 @ 11:59pm**
- **Week 9 BEEST due – 10/26 @ 11:59pm**

**WEEK 9
DAY 2**

