TEAM ASSIGNMENTS AND ACTIVITY

WEEK 2, STUDIO DAY 2

AWARENESS TRAINING

The test of a man or woman's breeding is how they behave in a quarrel.

– GEORGE BERNARD SHAW

People may doubt what you say, but they will believe what you do.

-Lewis Cass

Speak when you are angry and

you will make the best speech you will ever regret.

– AMBROSE BIERCE

I have learned through bitter experience the one supreme lesson to conserve my anger,

and as heat conserved is transmuted into energy,

even so our anger controlled can be transmuted into a power that can move the world.

– MAHATMA GANDHI

LEARNING OBJECTIVES

4 - Determine equivalency and equitably contribute to team efforts from start to end on a collaborative project, and participate in learning activities and coaching activities in the team.

- 4.1. Identify and agree on work equivalency among teammates and contribute equally to all of the team's efforts throughout the design process.
- 4.2. Recognize individual strengths, utilize these skills, and coach other teammates.

TEAM ASSIGNMENTS

→ **Sit with your teams now**

→ **Exchange information**

5 minutes

WORKING ON A TEAM, PART 1

"Not finance. Not strategy. Not technology. It is <u>teamwork</u> that remains the ultimate competitive advantage, both because it is so powerful and so rare."

- Patrick Lencioni

….So why is it so rare?

VIDEO: THE 5 DYSFUNCTIONS IN ACTION

Lencioni Model

The Five Dysfunctions of a Team
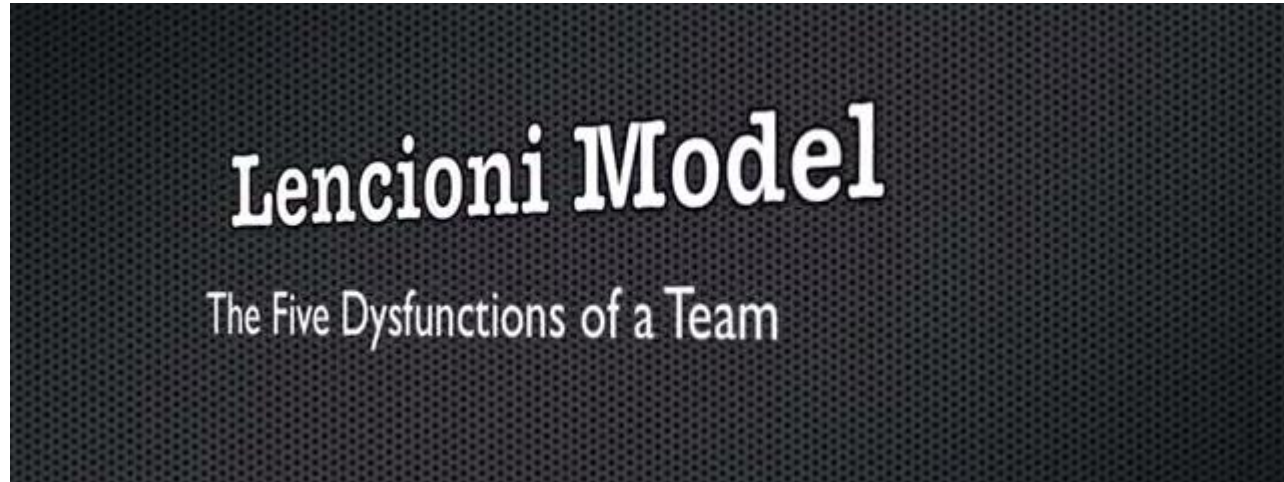
https://youtu.be/UTBFVM-hQUU **(6 minutes)**

- **Note specific dysfunctions you see in the video.**
- **What could they have done differently to avoid/change these dysfunctions**

TEAM DISCUSSION AND REFLECTION

- **Review what you had prepared for class. What experiences have you had with these 5 dysfunctions?**

    - **What's most IMPORTANT to you?**

    - **What's most PROBLEMATIC/ IRRITATING?**

3-4 minutes

CROSS SHARING

Share what you've written with your team

4-5 minutes

Review: Intent Allows the Avoidance of The 5 Dysfunctions

TEAM INTENTION

Capture in your design log

What specific actions, behaviors, norms are you going to establish and enforce in your team.

Capture at least one specific idea to address each of the 5 dysfunctions for your groups' Team Contract

PROJECT CALL FOR PROPOSALS

Read through, highlight / mark

4-5 minutes

EPICS 151 Fall 2016

COMBATING FOOD DESERTS

ONE CLASS PROJECT AT A TIME...

WHAT ARE FOOD DESERTS?

- Areas where access to affordable, healthy food options (esp. fruits & veggies) is restricted or non-existent due to the distance or absence of mainstream grocery stores.

- Heavy reliance on "fringe foods."

- 23.5 million people (7.4% US population) live in food deserts. Chicago, Boston, Detroit, NYC, and others closer to 20%.

WHO LIVES IN FOOD DESERTS?

- **Nearly half of all people living in food deserts are low-income or otherwise in underserved communities.**

- **Single parents**

- **People lacking transportation**

WHAT ARE THE IMPACTS?

- **Diabetes has tripled in the last decade.**

- **One-third of children are now obese.**

- **Food deserts are one of the main reasons underserved populations suffer from higher rates of obesity, diabetes, and cardiovascular disease.**

BUILD MORE GROCERY STORES?

- **Not economically sustainable!**

- **Wealthy neighborhoods have 3-4x amount of mainstream grocery stores as compared to underserved / under-represented communities.**

WHAT ABOUT FOOD STAMPS?

- Access to mainstream grocery stores is still restricted.

- In Detroit, 92% of food stamp retailers are convenience, liquor, and party stores.

DENVER METRO FOOD DESERTS
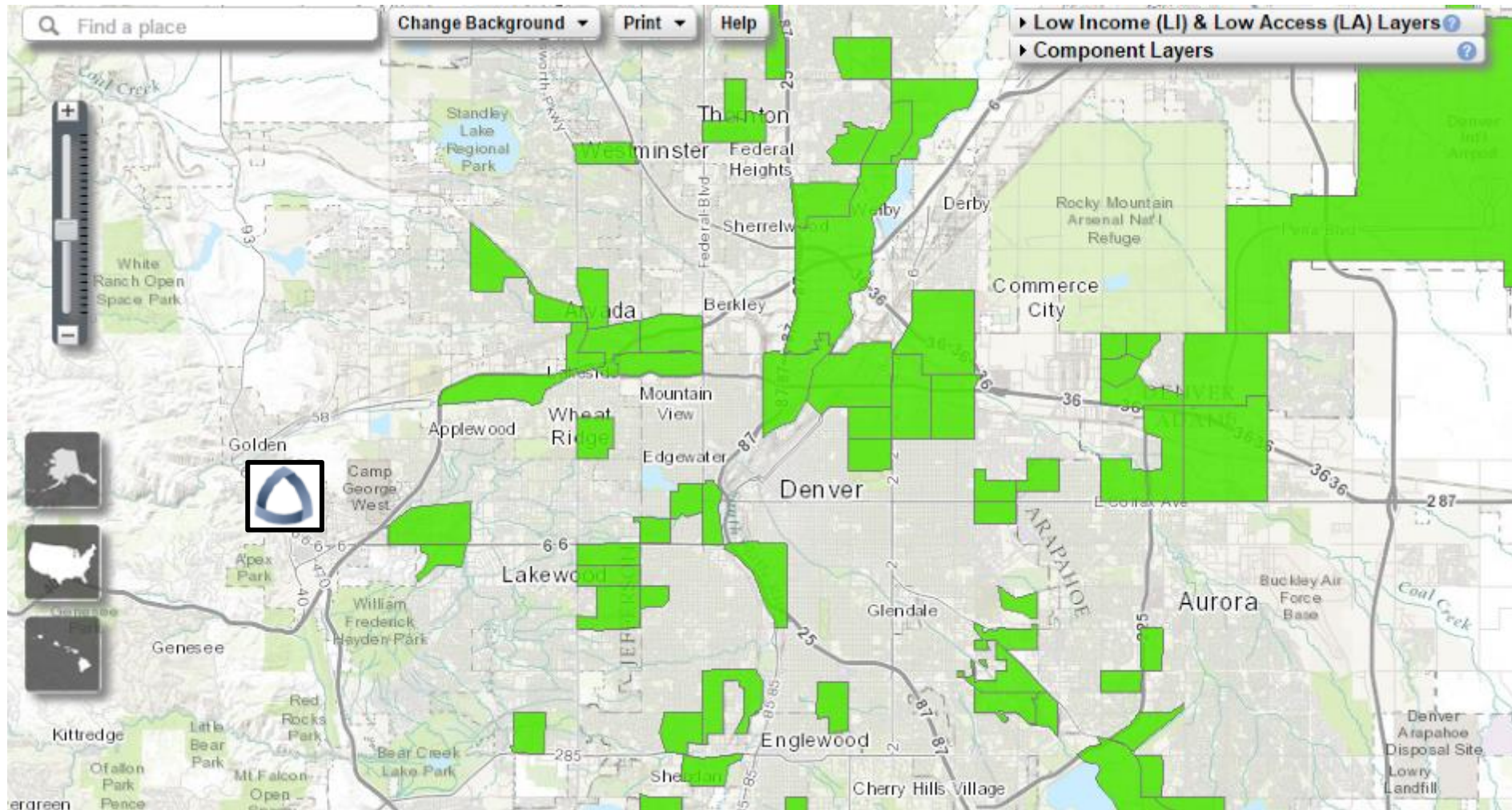
Green indicates areas of low-income and areas lacking access to mainstream grocery stores (between 1-10 miles).

Source: United States Department of Agriculture Economic Research Service (2016). Food Desert Research Atlas *[Online]*. Available: http://www.ers.usda.gov/data-products/food-access-research-atlas/go-to-the-atlas.aspx

EPICS 151 PROJECT

Empower individuals and families living in food deserts to produce their own supply of healthy food to supplement what they may or may not be receiving from other initiatives and organizations.

Single-family food-growing system must be designed for _small_ areas and produce at least 3 different types of food. Assume Golden's climate.

To increase adoption and ease of use, solution must be self-sustaining in some significant ways.

BEFORE YOU SOLVE IT THOUGH...

Let's work hard to understand the problem,

Refine the problem definition, and

Walk a mile in a desert resident's shoes...

# USER EMPATHY (WRITE UP DUE PROJECT DAY 1, WEEK OF SEPT 12)
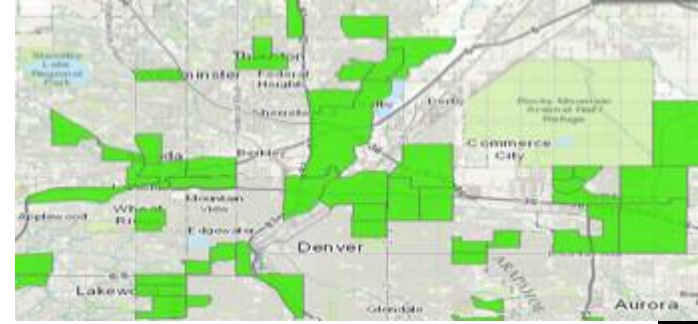
- **Student teams form "families" and experience the difficulty of a lack of healthy food options**

- **Travel to/from food desert via public transportation**

  - Shop only at discount stores and "fringe retailers"
  - Buy a day's worth of food on a family SNAP budget (5 people x $4.23 = $21.15)
  - Follow the USDA's dietary recommendations

- **Observations, documentation & sketching**

- **Cook and eat a feast together**

- **Reflect on experiences and generate a new enlightened bug list**

- **Medical accommodations: not a problem→ see me**

FOOD DESERT OPTIONS
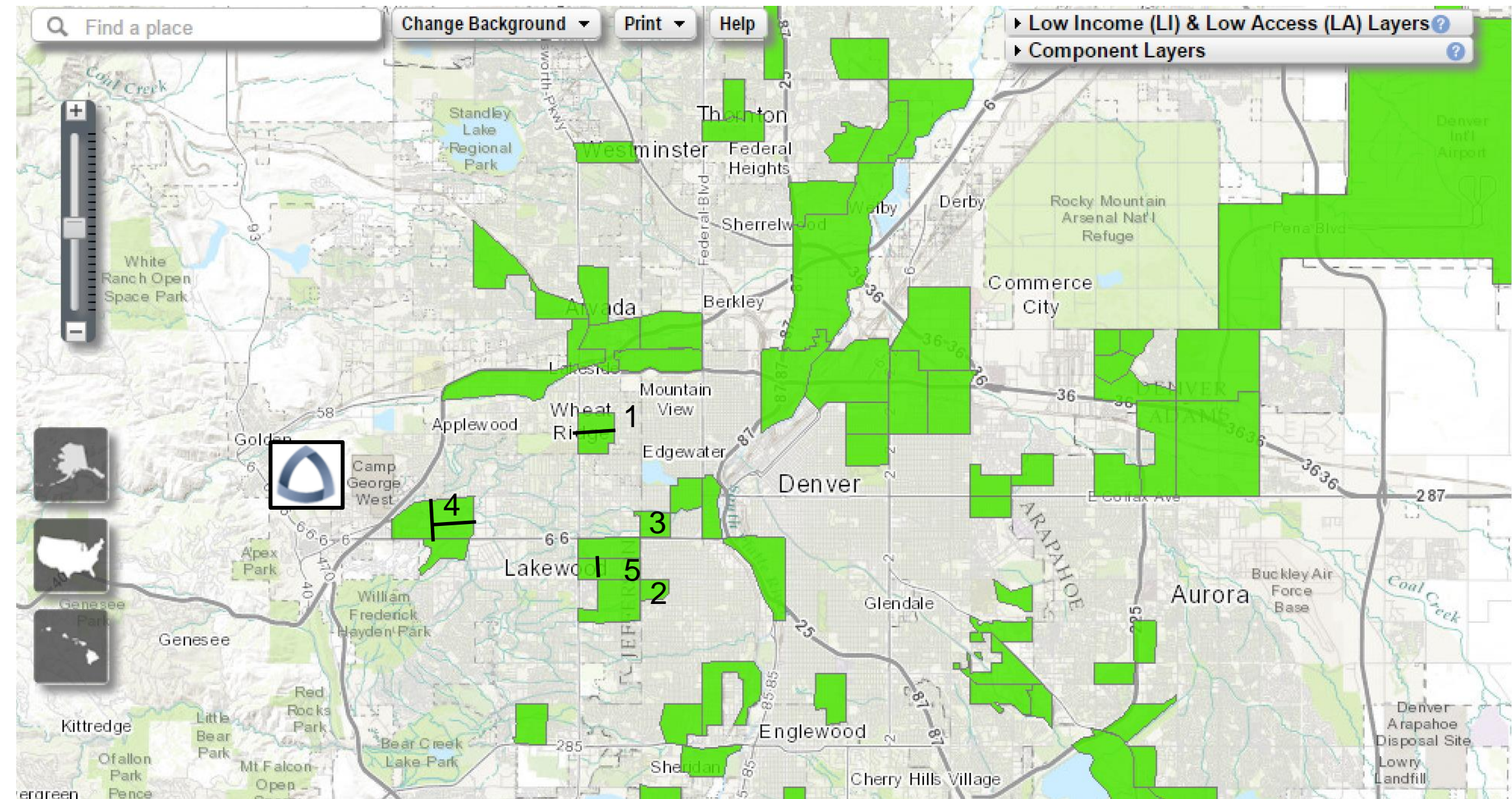
Source: United States Department of Agriculture Economic Research Service (2016). Food Desert Research Atlas
[Online]. Available: http://www.ers.usda.gov/data-products/food-access-research-atlas/go-to-the-atlas.aspx

USER EMPATHY PHOTO SHOOT
(PHOTO DUE NEXT WEEK)

- Take a snazzy team action photo while on your adventure

- Copy to a page. Label yourselves, in the order you appear in your photo (or otherwise tag yourselves).

- Make a color print out and hand to me next week.

REFLECTION

Write another "bug" list. What do you think would be the problems associated with living in a food desert?

Consider it from multiple perspectives.

Add to this bug list as much as possible before your team outing.

5-6 minutes

USER EMPATHY ASSIGNMENT

- The "food desert" experience must be completed by class in one week (_yes, in 7 days_). You have no EPICS class Monday or Tuesday.

- Plan for six hours.

- <u>Tip:</u> Your student group may stand out in these neighborhoods. Go during daylight hours, leave backpacks at home, stay in your group.

- Repeat: STAY TOGETHER.

- Medical accommodations: speak with your mentor.

→ Continue your bug list, independently, ahead of the trip.

- Organize your plan with your team NOW.

- Tell me today, or via email, what your plan is.

4-5 minutes

Design EPICS I Weekly Schedule Fall 2016 V1 (subject to change, check back)

Date (Mon)	Week	Project Studio 1 (Monday or Tuesday, Engineering Annex)					Project Studio 2 (Wednesday or Thursday, Engineering Annex)					Graphics (Wed, Thu, or Fri, CT129)			
		Due	Pre-Class	Topic	Assigned	Learning Objective	Due	Pre-Class	Topic	Assigned	Learning Objective	Due (SW HW due Tue 11:59 PM on BB)	Topic	Assigned	Learning Objective
Aug 22	1		Welcome Email	Introduce course, instructor, design log, marshmallow challenge in mini-teams.	IDEO video	3.1		Buy Comp. Notebook IDEO Video Syllabus & Course Map	Where do problems come from? Bug lists; "Fix the classroom" exercise.	Buglist, problem definition, and solution, on food.	1.1		Field & Engineering Sketching: Why hand sketching? Design, lettering, Human Figure, Landscape	Sketchbook (I); Process with Lettered Instructions; Landscape with Human Figure (I)	7.2, 7.3, 7.5, 8.8
Aug 29	2		Food solutions; mini-teams with informal presentations	Part 1: Problem Definition Part 2: Stakeholders		1.2, 2.4, 2.5		5 Dysfunction Pre-reading	Team work part 1 (5 dysfunctions), Team Assignments	Videos, User Empathy Reflection (I)	4.1, 4.2	In-class: Process w/ Lettered Instructions; Landscape w/ Human Figure (I)	Field & Engineering Sketching: 1-Point & 2-Point Perspective, Isometric Pictorials	Perspective & Isometric Drawings (I)	7.1, 8.5
							Release Call For Proposals								
Sept 5	3	Labor Day : NO EPICS 151 CLASS Mon 5th or Tues 6th (note: you may have other classes in session Tuesday)					Design Log Food Desert Reflection & Notes	Read Call for Proposals; empathy articles	Part 1: Project questions. Observing and Interviewing stakeholders. Part 2: System breakdowns	Problem Definition	1.3, 2.4, 2.5	In-class: Perspective & Isometric Drawings (I)	Field & Engg Sketching; Obliques, 3rd Angle Ortho Multiview Projections, Ellipses, Dimensioning	Dimensioning Packet (I)	7.1, 8.4, 8.8
Sept 12	4		Draft Problem Definition	Scholarly and Authoritative sources, and guided research. (Meet @ Arthur Lakes Library) Problem Definition Checkpoint	Attend 1-2 SME talks	2.1, 2.2	User Empathy Reflection (I)	Problem Definition	Part 1: Finalize Problem Definitions. Project questions. Part 2: Team contract.	Team Contract (T); Refined Problem Definition	1.1-3, 2.3, 4.1, 4.5		Intro to SolidWorks: setting up, interface, intro to CAD sketching, reading orthographic drawing	SolidWorks HW 1 (I)	8.1
Sept 19	5	Team Contract (T)	Refined Problem Definition;	Part 1: Idea generation. Part 2: Rapid prototyping - how and why. Workshop safety and tour.	Idea log peer feedback; Looks-like Prototype (I)	5.3, 3.2			Focusing and decision-making tools.	Project Proposal (T)	5.4	Blackboard: SolidWorks HW 1 (I)	SW: Basic part modeling; design intent, sketching tools, contours.	SW HW 2 (I)	8.9, 8.10
Sept 26	6		360 Review Reading	Part 1: Teamwork part 2, peer reviews, 360 reviews. Part 2: Presentation skills, and overview of Proposal		4.1-5, 6.1			Part 1: Project Planning Part 2: Why Sketching?	Project Plan (T)	5.1,5.2, 7.1?	BB: SW HW2 (I)	SW: Features and applied features.	SW HW 3 (I)	8.9, 8.10
Oct 3	7	Looks-Like Prototype (I); Project Proposal (T)		Team Presentations: Design Proposal; 4-5 "Looks-like" prototypes; pitch & justify best idea.		6.1, 3.2,		Teammate Evaluation	Part 1: conduct 360 review Part 2: confirm chosen design direction		4.1-5, 3.4	BB: SW HW3 (I)	SW: working with planes, multiple bodies, modeling (equation, variables, Boolean)	SW HW 4 (I)	8.9, 8.10
Oct 10	8			Part 1: Breaking down a big project: Subsystems and interfaces. Part 2: Works-like prototype: why / how, design of prototype tests.	Works-like prototype (T)	1.3, 2.3, 3.3, 3.5		Industry research, Design Log notes	Part 1: Subsystems approval and direction. Part 2: Risk assessment	Testing protocols and safety plan	1.3, 3.6	In-class: Dimensioning Packet (I), Sketchbook (I)	Field & Eng Sketching: Auxiliary Views, Section Views, Detail Views, More Dimensioning	Auxiliary, Section Views Packet (I)	8.6, 8.7, 8.8
17-Oct	9	FALL BREAK – No class Mon 17th or Tue 18th					Project Plan (T); Testing Protocol w/ Safety Plan		Part 1: Team time - subsystems, testing, prototypes. Part 2: Overview of susbsystems report.	Subsystems Report (I)	3.4	BB: SW HW4 (I)	SW: sweep, shell, split, revolve, dome, patterns, ribs, holes.	SW HW 5 (I)	8.9, 8.10
Oct 24	10	Subsystem functionality testing (T)	interview an engineer or scientist	Part 1: Subsystems Testing Part 2: Technical writing		3.3, 3.4, 3.5, 6.3			Stakeholder feedback on works-like prototype. Coaching of design iterations.	Stakeholder Feedback	2.5, 3.1, 3.4	BB: SW HW5 (I)	SW: Assemblies and exploded views; smart fasteners.	SW HW 6 (I)	8.9, 8.10
Oct 31	11	Iterations based on feedback (T)		Subsystem testing.		3.3-5	Subsystems Report (I)		TBD Part 1 Embedding graphics, tables. Part 2- validating claims		6.2, 6.3	In-class: Packet Corrections (I); Auxiliary, Section Views Packet (I)	Field & Engg Sketching: Working Drawings; Field and Engg Sketching Mini-Exam		7.1-7.5, 8.1-8.9, 8.12
Nov 7	12	Interface testing iterations (T)		Prototype testing.		3.3-5			Overview of final report, tradeshow presentations.	Final Design Report (T); Trade Show Presentation (T)	5.6, 6.2, 6.3	BB: SW HW6 (I)	SW: Drawing sheet, dimensioning, Bill of Materials, design intent.	SW HW 7 (I)	8.6, 8.7, 8.8, 8.11, 8.12
Nov 14	13	Works-Like system testing (T)		Prototype testing.		3.3-5	Works-Like Prototype Testing Progress (T)		Part1: Wrap up prototype tests. Part 2: Materials list and cost estimation.		3.3-5, 5.5	BB: SW HW7 (I)	SW: Exam review, tips & tricks		8.9, 8.10
Nov 21	14	Works-Like system testing (T)		Part 1: Prototype testing (for teams not cleared yet) Part 2: Other catch-up		3.3-5	THANKSGIVING -- No class Wed 23rd, Thu 24th or Fri 25th					No GRAPHICS			
Nov 28	15	Final Teammate Evaluation (I)		Part 1: Trade fair presentations and artifacts. Part 2: Supervised feedback: peer and team.		6.2, 4.4			Course evals. Supervised team time.		4.4	In-class: Design Log (I)	SolidWorks Exam. 180-minute CSWA exam is mandatory.		8.9, 8.10
Dec 5	16	Final Design Report (T); Trade Show Presentation (T)		Exhibit final solution; judging		6.2, 6.3			EPICS 151 Final Competition 5-7:30 pm Wednesday, Location TBD		6.2	No GRAPHICS			
Dec 19-Jan 10		Exams & Winter Break													

COMING UP NEXT WEEK!

Studio Day 1:

No Class Monday or Tuesday → Labor Day Holiday!

(note you likely have other Tuesday classes)

→ **Complete your User Empathy *outing***

Graphics: Field and Technical Sketching day 3

Studio Day 2:

Project questions, systems breakdowns.

- PRE-CLASS READING – 2 articles posted on BB
- **Due**: Food Desert Experience Reflections in Design Log, Photo, & Notes