Auburn University

ANNUAL REPORT FOR

AMERICAN SOCIETY OF CIVIL ENGINEERS STUDENT CHAPTER

Contact Information

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https://www.facebook.com/Auburn.ASCE/

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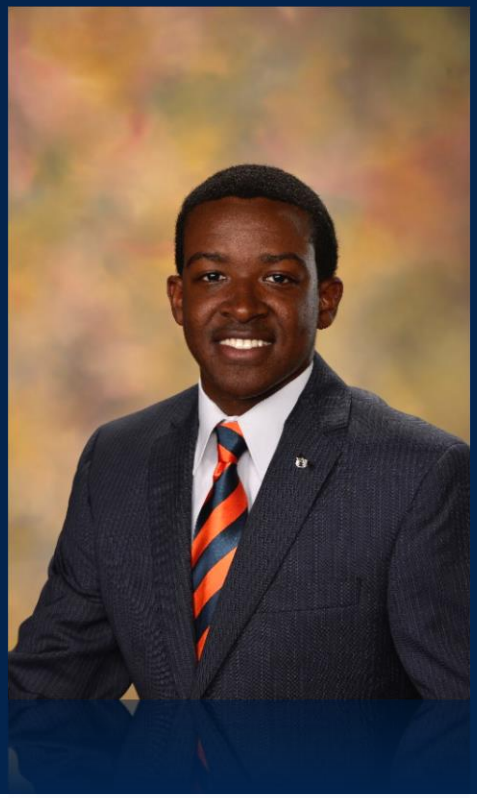

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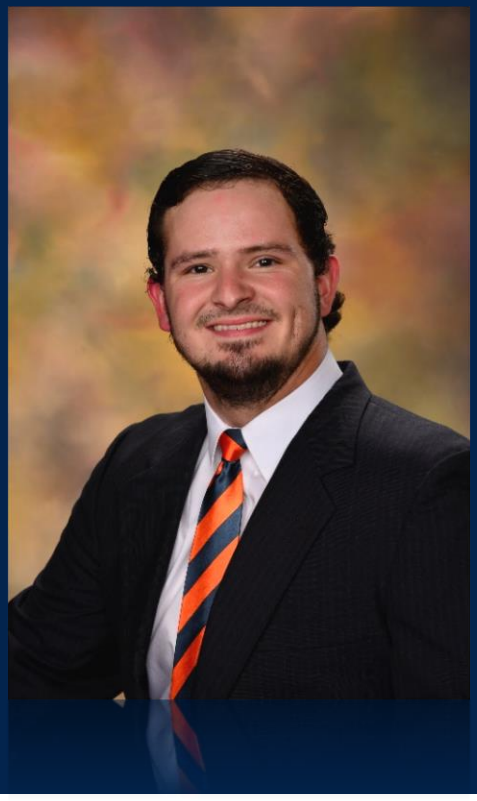

JOHN HATFIELD – RECRUITMENT CHAIR (2016-2017)

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Advisor

Dr. Justin Marshall

Associate Professor (Structural)

email: jdm0022@auburn.edu

Phone: (334) 844-7145

Financial Summary

Dues structure *($20/year, semester)*

As of December 31, 2015

- Total income: $10,450.00
- Total expenditures: $6,325.00
- Cash balance: $4,124.65
- Accounts receivable: $0
- Accounts payable: $2,832.52

Chapter Objectives

"The objective of this chapter shall be to encourage the development of the professional consciousness, to give an opportunity for civil engineering students to become acquainted and to practice working together effectively. Furthermore, the chapter shall promote a spirit of mutual congeniality and provide friendly contact with the engineering profession. Also, this chapter shall encourage lifetime ASCE memberships, present a good image of civil engineering, and encourage undecided engineering students into pursue a career in civil engineering."

- Article II: Section A of Auburn ASCE Constitution

Membership Statistics

77 Total number of members

16 Total number of ASCE National Society-level members

20% Percent of members are Society-level members (Society-level/total members)

55 Number of members with Junior and Senior status

275 Number of Juniors and Seniors eligible to join ASCE (CE declared majors)

20% Percent of eligible Juniors and Seniors that are members (Jr&Sr members / Jr&Sr eligible)

ASCE Regional Governor Visit

Guest Speaker: Melissa Wheeler M. ASCE

- Director/Chair of Region 5

Attendance – 48

Ms. Wheeler gave a presentation about her role with ASCE and how students can get involve with the national organization after graduation.

Montgomery Branch Visit

Guest Speakers: Officers of ASCE Montgomery

- Brad Williams, P.E., M.ASCE – President
- Greg Boleyn, P.E. – Vice President
- Michael Hora, P.E. – Former President
- Andrew Harry, P.E. – Scholarship Chairman

Attendance – 53

Mr. Williams and his officers gave a presentation on how the Montgomery Branch operates and also aa presentation on ALDOT and ADEM

Recruitment Cookout

Auburn ASCE kicked of the fall semester with a cookout to increase awareness of the organization amongst the engineering student body, and the student body at large. Our estimated attendance was about 80 students.

Auburn ASCE Gives Back!

Auburn ASCE, through our philanthropy committee sponsored a blood drive in tandem with the American Red Cross. There were approximately 25 donors who gave, and another 25+ who want to give but did not qualify.

Auburn ASCE Gives Back!

Other Volunteering Events

- Storybook Farms
- Engineering Day
- Math Counts

Semi Annual Career Fairs

Each semester, Auburn ASCE hosts a Civil Engineering Career Fair at the Auburn University Hotel. This career fair is specifically for companies looking for civil engineering students, unlike most STEM career fairs. The average attendance is 65 – 70 students for both fairs.

Career Lunch Series

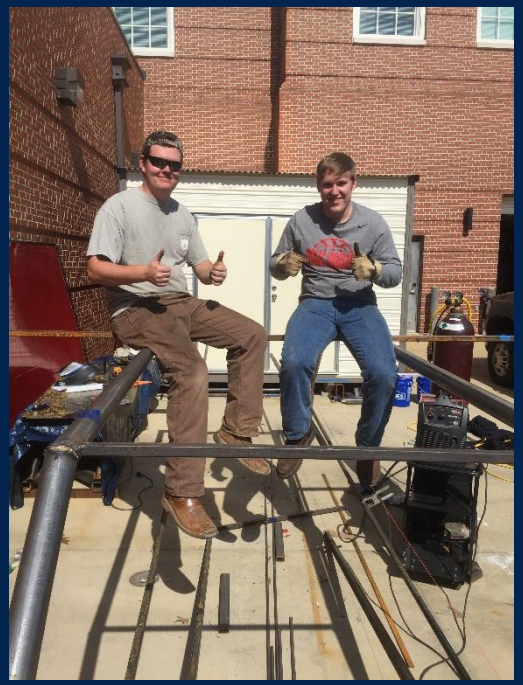
Every Tuesday, Auburn ASCE hosts Career Lunch Series. Auburn ASCE invites civil engineering companies from around the southeast who are looking to recruit Auburn students. The company provides lunch for the students and they give a 30-45 minute presentation about their company. The average attendance is 50-60 students.

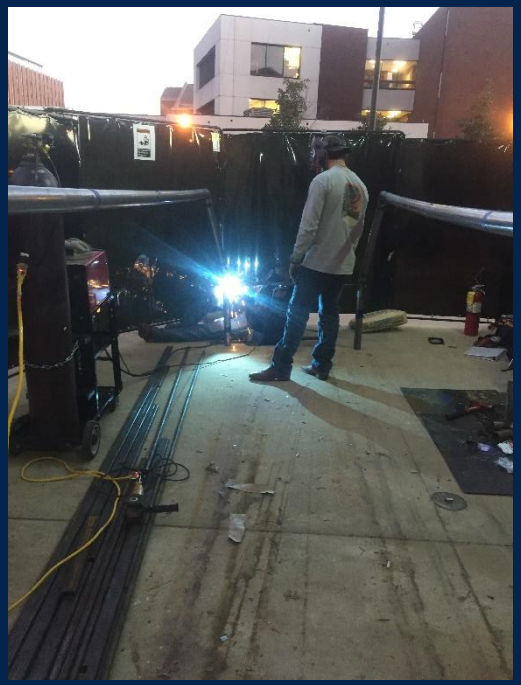
Leadership Development

ASCE Alabama Student Leadership Conference

- *Hosted by Auburn University, 4 attending schools*
- *February 11th, 2017*
- *Guest speaker Senator Tom Whatley*

Steel Bridge





Steel Bridge

Lessons at the Auburn University OutCELL:
OUTdoor Civil Engineering Learning Lab

Ross Ellis

OutCELL Captain

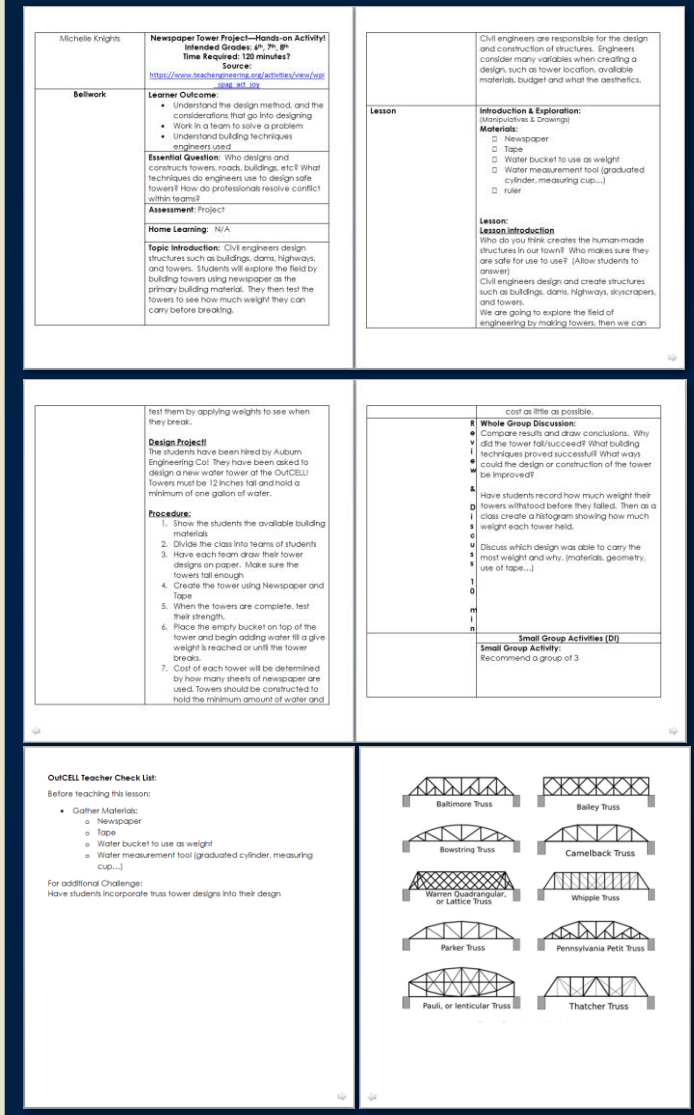
Lessons at the Auburn University OutCELL:
OUTdoor Civil Engineering Learning Lab

Scope of Project:

- Utilize Auburn OutCELL Facility built by ASCE in 2016
- Form a permanent group pf Auburn OutCELL Ambassadors to manage operation of OutCELL
- Develop STEM lesson plans for K-12 student groups
- Conduct lesson plans for local K-12 students at the OutCELL

Developing Lesson Plans:

- Lessons should promote hands-on learning for STEM topics
- Special emphasis on the field of Civil Engineering
- Lessons developed to relate to several of the difference disciplines of Civil Engineering
  - ➢ Erosion Control (Construction, Geotechnical)
  - ➢ Newspaper Structures (Construction, Structural)
  - ➢ Surveying (Construction)
  - ➢ Water Filtration (Environmental)



Michelle Knights	**Newspaper Tower Project—Hands-on Activity!** **Intended Grades: 6th, 7th, 8th** **Time Required: 120 minutes?** **Source:** https://www.teachengineering.org/activities/view/wpi_55NE_act_pay
Bellwork	**Learner Outcome:** • Understand the design method, and the considerations that go into designing • Work in a team to solve a problem • Understand building techniques engineers used **Essential Question:** Who designs and constructs towers, roads, buildings, etc? What techniques do engineers use to design safe towers? How do professionals resolve conflict within teams? **Assessment:** Project **Home Learning:** N/A **Topic Introduction:** Civil engineers design structures such as buildings, dams, highways, and towers. Students will explore the field by building towers using newspaper as the primary building material. They then test the towers to see how much weight they can carry before breaking.

	Civil engineers are responsible for the design and construction of structures. Engineers consider many variables when creating a design, such as tower location, available materials, budget and what the aesthetics.
Lesson	**Introduction & Exploration:** (Manipulatives & Drawings) **Materials:** ☐ Newspaper ☐ Tape ☐ Water bucket to use as weight ☐ Water measurement tool (graduated cylinder, measuring cup…) ☐ ruler **Lesson:** **Lesson Introduction** Who do you think creates the human-made structures in our town? Who makes sure they are safe for use to use? (Allow students to answer) Civil engineers design and create structures such as buildings, dams, highways, skyscrapers, and towers. We are going to explore the field of engineering by making towers. then we can

test them by applying weights to see when they break.

Design Project!
The students have been hired by Auburn Engineering Co! They have been asked to design a new water tower at the OutCELL! Towers must be 12 inches tall and hold a minimum of one gallon of water.

Procedure:
1. Show the students the available building materials
2. Divide the class into teams of students
3. Have each team draw their tower designs on paper. Make sure the towers tall enough
4. Create the tower using Newspaper and Tape
5. When the towers are complete, test their strength.
6. Place the empty bucket on top of the tower and begin adding water till a give weight is reached or until the tower breaks.
7. Cost of each tower will be determined by how many sheets of newspaper are used. Towers should be constructed to hold the minimum amount of water and

	cost as little as possible.
Review & Discuss 10 min	**Whole Group Discussion:** Compare results and draw conclusions. Why did the tower fail/succeed? What building techniques proved successful? What ways could the design or construction of the tower be improved? Have students record how much weight their towers withstood before they failed. Then as a class create a histogram showing how much weight each tower held. Discuss which design was able to carry the most weight and why. (materials, geometry, use of tape…)
	Small Group Activities (DI) **Small Group Activity:** Recommend a group of 3

OutCELL Teacher Check List:

Before teaching this lesson:

- Gather Materials:
  - Newspaper
  - Tape
  - Water bucket to use as weight
  - Water measurement tool (graduated cylinder, measuring cup…)

For addtional Challenge:
Have students incorporate truss tower designs into their design

Lessons at the Auburn University OutCELL:
OUTdoor Civil Engineering Learning Lab

Lesson Materials:

- Funding provided by OutCELL sponsors, who contributed when OutCELL was constructed
- Total materials cost to date: $47.66

Item	Number	Unit Cost	Material Cost	Purpose
Sponges 8 pack	2	$ 1.50	$ 3.00	Erosion Control Lesson
Masking tape 4 pack	1	$ 4.99	$ 4.99	Newspaper structures Lesson
Duct tape	2	$ 3.50	$ 7.00	Newspaper structures Lesson
Baking pan	6	$ 1.29	$ 7.74	Erosion control lesson
Wood shims	1	$ 1.62	$ 1.62	Erosion control lesson
Decorative wood mold	2	$ 1.35	$ 2.70	Erosion Control Lesson
Play sand 50 lb	1	$ 4.20	$ 4.20	Erosion control/water filter lesson
5 gallon bucket	1	$ 2.98	$ 2.98	Newspaper structures lesson
0.5 cu-ft drainage rock	1	$ 3.58	$ 3.58	Water filter lesson
Glitter	1	$ 1.50	$ 1.50	Water filter lesson
Crafts pom poms	1	$ 1.00	$ 1.00	Water filter lesson
Gum drops	2	$ 1.00	$ 2.00	Newspaper structures Lesson
Coffee filters 150 ct	1	$ 1.35	$ 1.35	Water filter lesson
Transparent tape	2	$ 1.00	$ 2.00	Newspaper structures Lesson
Plastic spoons	1	$ 1.00	$ 1.00	Erosion Control Lesson
Toothpicks	1	$ 1.00	$ 1.00	Erosion Control Lesson
		Total Cost	**$ 47.66**	

Conducting Lesson Plans:

- Inaugural class was four 4th graders from Auburn Classical Academy
- Field Trips to the Auburn OutCELL consist of a tour of the eleven educational displays and lesson plans as time permits

Lessons at the Auburn University OutCELL:
OUTdoor Civil Engineering Learning Lab

Student Contribution:

- OutCELL has two permament faculty advisors and two co-captains
- 2017 Service Activity Team consistsed of one faculty advisor, two graduate students, and four undergraduate students
- The Service Activity team contributed a cumulative 68 hours for a total value of $1,700 at $25 per hour

Date	Reason	Ross Ellis	Brian Faulkner	Sarah Gustitus	Austin Harmon	Michelle Knights	Susan Wu
10/20/2016	Recruiting	1	1	1	1	1	1
10/26/2016	Lesson plan brainstorm	1.5	1.5	1.5	1.5	1.5	1.5
11/1/2016	Developing lesson plans	1.5	1.5	1.5	1.5	1.5	1.5
11/8/2016	Review lesson plans	1.5	1.5	1.5	1.5	1.5	1.5
1/28/2017	Materials purchasing	1					
1/30/2017	Materials purchasing	1					
1/31/2017	Test lesson plans	1.5	1.5	1.5		1.5	
2/8/2017	Materials purchasing	1					
2/28/2017	Plan OutCELL tour	2	2			2	
3/5/2017	Final briefing	2	2	2		2	
3/6/2017	Inaugural class	3		3	3	3	
	Total Hours	68					
	Total Value	$ 1,700.00					

Community Impact:

- The Lessons at the Auburn OutCELL will be a permanent intitution in the Auburn community
- STEM and Civil Engineering educational resources will be available to the public in perpetuity

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OUTdoor Civil Engineering Learning Lab

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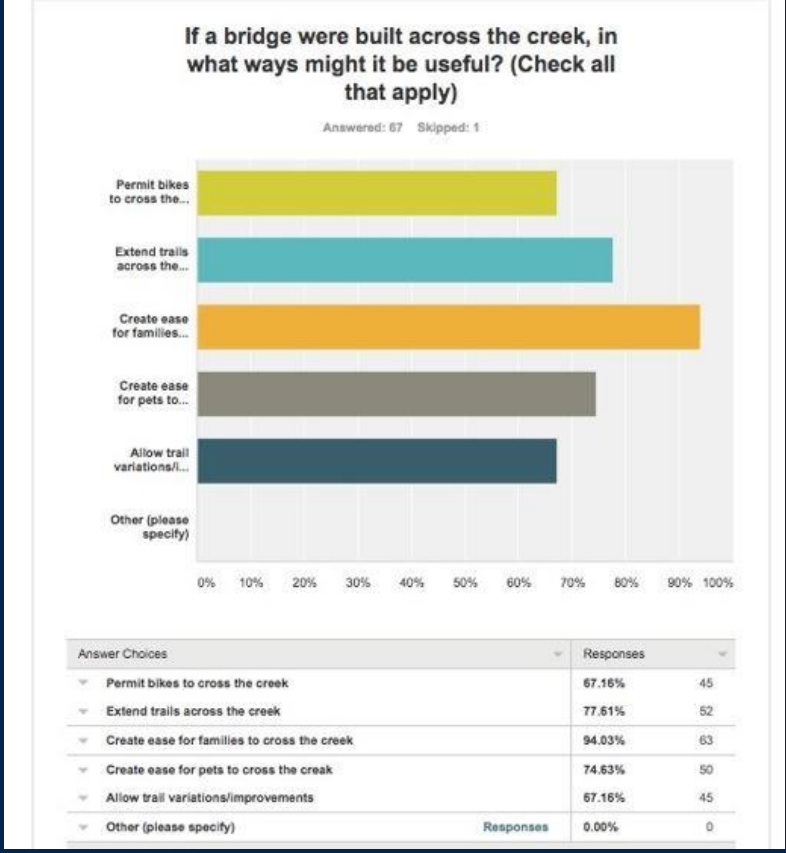
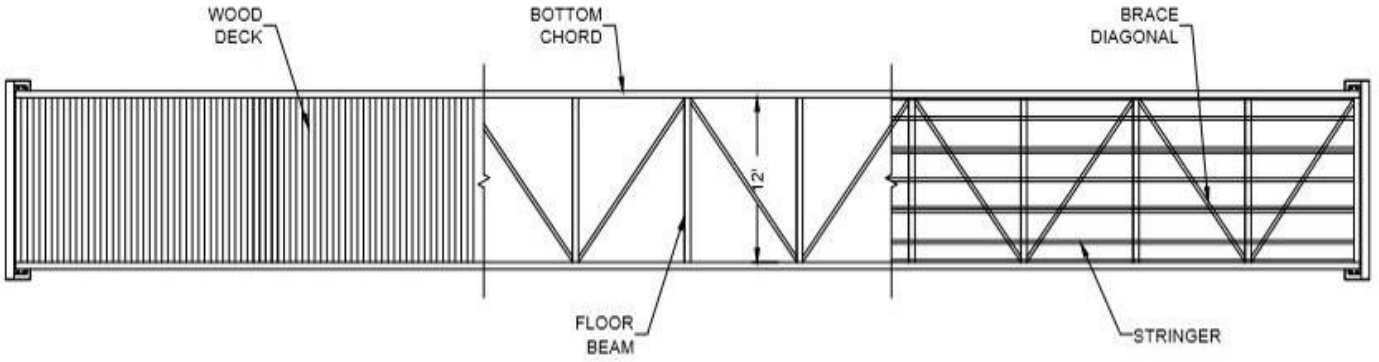
The Chewacla Bridge Project

Our Goals:

- *The goals of the project was to improve the overall experience of the state park and increase activity at the park. The Auburn ASCE Chapter Philanthropy Sector chose this project because it our goal to find ways to give back to our local community and aid in improving it for long-term. We also asked the community who were interested in this project to see what they would like.*



Answer Choices	Responses	
Permit bikes to cross the creek	67.16%	45
Extend trails across the creek	77.61%	52
Create ease for families to cross the creek	94.03%	63
Create ease for pets to cross the creak	74.63%	50
Allow trail variations/improvements	67.16%	45
Other (please specify) Responses	0.00%	0



BRIDGE PLAN

The graphic information and details contained in these plans is schematic in nature. The plans, elevations and sections have been developed automatically in a way that demonstrates your current input in a relative and proportional manner. The details included in these plans have been selected to represent commonly built construction assemblies. These are not Engineering drawings, and as such, the details may vary in the final design for your project depending on many variables that are selected in your final scope of work and specifications.

PRELIMINARY

MARK	DATE	REVISION DESCRIPTION	BY

CONTECH Bridge Solutions LLC
www.contechbs.com
9025 Centre Pointe Dr., Suite 400, West Chester, OH 45069
800-338-1122 513-645-7000 513-645-7993 FAX

CONTINENTAL BRIDGE

CONTECH DYOB® DRAWING

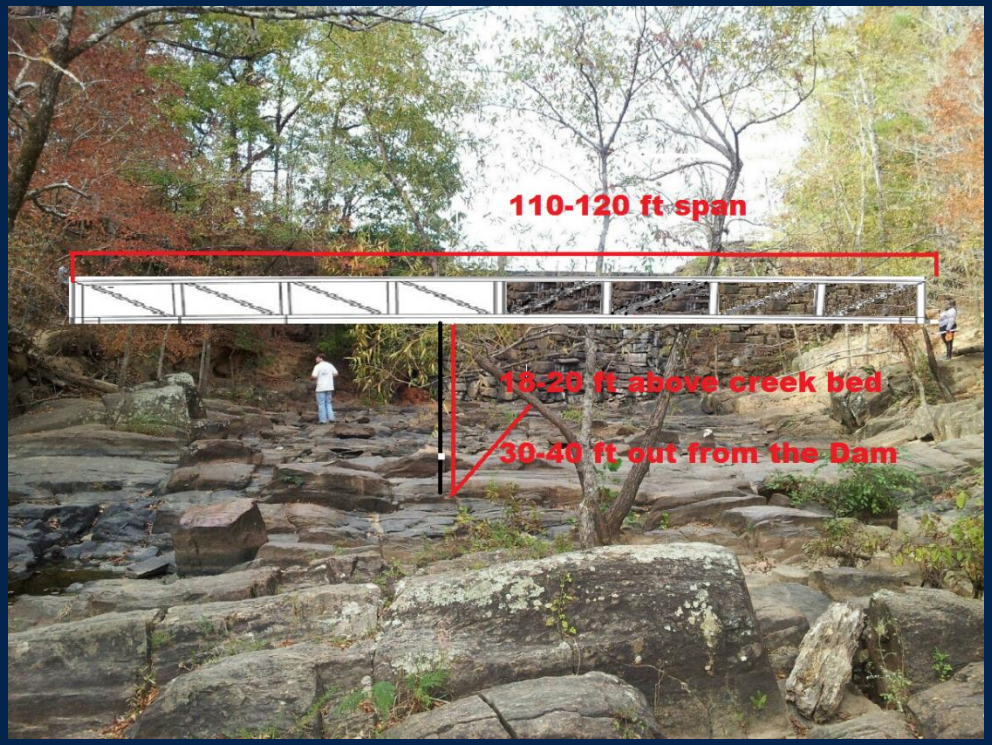
Connector® 110' Span x 12' Width
Chewacla State Park Pedestrian Bridge
Pedestrian Bridge
Auburn, Alabama

PROJECT NUMBER	DATE
145720	11/18/2016
DESIGNED	DRAWN
DYOB	DYOB
CHECKED	APPROVED
SHEET NO.	
2 OF 4	

The Chewacla Bridge Project (cont.)

Project impact:

- *The overall goal of the project is for a bridge to be built at Chewacla State Park that will allow everyone ease of passage over the creek. It is no secret that the waterfall is a main attraction at the park, but unfortunately everyone is not able to enjoy it the same way. There are no short term goals with this project as it will be designed to stand the test of time and overall aid improving our community for long- term.*



The Chewacla Bridge Project (cont.)

Participation:

- *Number of students and percent of total membership that worked on the project: 7 total students @ approx. 10% of total membership*
- *Number of faculty and practitioners: 2 Faculty and 2 Practitioners*
- *Total person-hours spent on the project: 125 hrs*

Summary and Questions

Our biggest challenge was trying to encourage student involvement and making aware of our community what civil engineering can really do for everyone.

Through our volunteering events, projects, social events and career events, Auburn ASCE has made an impact in the city and the school!