

NAU Steel Bridge

Meeting Minutes

Date / Time: September 19th, 2017 / 6:35 PM

Present Members: Isaac Block, Ian Connair, Taylor Erdmann

Present Advisors: Thomas Nelson, PE, SE, Sabrina Ballard, EIT

Meeting Begins: 9/19/17 at 6:35 PM

- Where we should be at right now?
 - Design done by the end of the semester
 - Then focus on materials after this is accomplished
 - Fundraising→ need to start ASAP
 - Contact company to ask for donation of materials early so they at least have us in mind
 - Go Fund Me Account→ Link it to the ASCE bank account
- Realistic Spending for the bridge?
 - If we need to order special materials (i.e high strength steel): This will cost \$\$
 - Gases for welding (if we fabricate at the farm) (About \$40 a tank)
 - Extra items (\$\$)- gloves, welding wire, tools, etc.
 - 2 years ago, the team outsourced welding which cost about \$3000 (services through Eager Welding)
 - If we choose to outsource our fabrication, drawing need to be more clear and detailed
 - Things may not come back the way you expect it, account for error
- Ask Mark about flashdrive with previous information on it...
- Research Methodology
 - LRFD or ASD?
 - LRFD: separates load and material uncertainty
 - ASD: All uncertainty on capacity
- What should we be investing the most time in?
 - THIS MONTH: Figure out what bridge design we want to go with
 - Do quick RISA model of a truss and beam to be able to create a decision matrix
 - NEXT MONTH: Connections, member sizes
 - Iteration: will happen, a lot
 - Read Rules: Know the ins and outs of the rules
 - Draw ideas of what we want members to look like
- When should we consider supports?
 - After the basic idea/design is complete

- Analyze as a pin-pin
- Overall lessons learned from past year
 - Fabrication takes a long time
 - More deflection than what was accounted for occurred because of fabrication errors
 - Be creative with solutions. Find a way to resolve a problem without having a lot of money to help
- Advice moving forward?
 - Don't get too hung up on one idea
 - This is a big learning process→ will have many iterations
 - Don't be afraid to take a couple steps back when necessary
 - Talk to Tommy and Sabrina when we have a new idea
 - Don't just have one person look at the design

Meeting Adjourned: 9/19/17 at 7:15 PM