



Student Steel Bridge Competition

Strategies for Working
Remotely as a Team



**Smarter.
Stronger.
Steel.**

SSBC Team Resources

Strategies for Working Remotely as a Team

We understand that working remotely on your bridge is not ideal. It is not the same as interacting with your team in person, and there can be unique challenges when it comes to communicating with your teammates, sharing files, and simply getting things done.

However, when you start your career, you may actually find that you are regularly working with others who are not in your office. Everything in this document will apply to those situations. Consider this an opportunity for you to:

- Learn more about working on technical projects remotely
- Establish habits and skills that you can take with you into the real world
- Practice team communication skills

This guide is intended to help you and your team get started and make good progress as you conduct virtual team meetings this fall.

Regardless of where and how you are working, be sure to follow any restrictions set in place by federal, state, local, and university officials. Your health and safety is of utmost importance.

Cover Image taken by Steve Buhman, New Leaf Studio

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Getting Started

Good communication supports the success of your team in both the in-person and remote formats. You will need to discuss your bridge design, coordinate times to meet in the shop for fabrication, ask questions of your advisor, and get to know your teammates.

Because you'll be meeting virtually for the fall term, you may need to take some extra steps to open up and maintain good lines of communication. Here are some helpful hints to help get you started.

Determine Communication Platforms

With technology these days, there are several different ways to communicate--and you're probably familiar with quite a few of them from virtual classes and keeping in touch with your friends. Some platforms are more formal, and others are more casual. Some have apps for your smartphone, and others may work better on the computer. Some are available for free, and others may require a subscription.

Your team may choose to use a variety of platforms to communicate. We recommend that you identify and commit to a select number of methods ahead of time. That way, you do not end up with several separate conversations on several different apps.

You may find that general team communication works better through traditional email, or perhaps your team may prefer an alternative application, like GroupMe, WhatsApp, or Slack. What you pick may depend on the size of your team or your combined experiences with particular applications. For example, G Suite (Gmail, Google Meet, Google Docs, Google Drive, etc.) is a natural choice for students at schools that use G Suite.

Video conferencing can be particularly helpful for keeping in touch with your team and hosting group meetings. Several platforms include screen sharing capabilities, which can help give the feel of working together in the same room. Be sure to check with your university to see what platforms they have available for student groups to use. Your university may have a licensing agreement with a video conferencing platform that can be used as part of a class or student organization.

Setting expectations up front can be helpful, so here are some questions for your team to consider:

- ☐ What platform(s) will your team use to communicate?
- ☐ What programs are available through your university?
- ☐ What type of discussion is best handled through text or chat message?
- ☐ What type of discussion is best handled through email?
- ☐ What type of discussion is best handled over the phone or video call?
- ☐ What are the preferences of your team members? Do they vary?
- ☐ Who should be included in the conversation(s)?

Being able to initiate and lead these conversations will serve you well in all your team projects going forward.

File Sharing

Your team will likely have several files that need to be shared among teammates. This could be anything from analysis files and CAD drawings to budget spreadsheets and fundraising documents. Check with your university to see what options are available, as there may be some file sharing platforms that are free for your use.

There are also some free versions of applications out there, such as Dropbox and Google Drive. Some applications even offer special discounts or extra storage to students. Be sure to check for any file sharing limits before you get started so that you do not run out of space too early in the project.

Here are some things to consider:

- ☐ What file sharing platform will you use?
- ☐ How will the files be organized in folders?
- ☐ Who has access to which files?
- ☐ Can multiple people be editing files simultaneously? Or will you need to check out and check in the files?
- ☐ Are there any storage limits? What is the plan if you start to approach the limit?

Other Software Needs

Consider what other software packages you need to complete your project. In addition to traditional word processing documents and spreadsheets, you may also need structural analysis packages and drafting software.

Again, check with your university about what is currently available and how to access programs with shared licenses. If you are working remotely, you likely do not have access to a traditional computer lab on campus. However, there may be some options to use VPN to access a program's license on the university's shared server using your own computer. Ask your faculty advisor and the IT department on campus for more information.

Questions:

- ☐ What traditional office products do you need (Word documents, spreadsheets, presentations, etc)?
- ☐ What program(s) will you use for structural analysis?
Hint: Check out aisc.org/ssbc for information about the offerings from our software sponsors.
- ☐ What program will you use for drafting?
- ☐ How do you access shared licenses at your university?

Scheduling and Task Management

The SSBC can be a big project to tackle, and you will likely need to subdivide the project into smaller and more manageable tasks. Here are some tips for getting started and some things to think about in a remote environment.

Team Task Groups

Subdividing your team into smaller groups focused on specific tasks can distribute the workload. Identifying a leader of each group can further help keep the group on task and accountable for their responsibilities. There are many ways to divide your team, and each team will look different depending on the size, level of experience, and other group preferences.

Here are a few categories to consider:

- Bridge design and analysis
- Fundraising and sponsorship solicitation
- Fabrication and material procurement
- Outreach and social media
- Construction team

Overall Project Schedule

A project schedule will help keep your team on task, especially if you are working remotely. Make a list of all of the tasks that you think will be required for the project, and identify which tasks can be done remotely and what will need to be postponed until you are able to work together face-to-face. Use this time to get organized so you can hit the ground running when you have the opportunity to meet in person again. Refer to the sample project schedule at the end of this guide to get started.

Questions:

- ☐ What are the tasks that are required? Be sure to include everything related to design, fabrication, construction, fundraising, etc.
- ☐ Who is responsible for each task?
- ☐ What work can be done remotely?
- ☐ What tasks must be completed in-person?
- ☐ How can you prioritize your tasks to make the most of the time working remotely?

Setting Expectations

Things may be different for your team this year if you are working remotely. Compared to a more traditional year, your methods of communication will not be the same, the order that you complete your tasks may vary, and the overall dynamics of your team may feel completely different. However,

it does not mean that the project is impossible. It just means that you will need to adapt and set some different expectations.

One of the best ways to adjust your expectations is to set some realistic and tangible goals. Think about what major tasks you would like to complete in the coming weeks and months.

- ☐ Can a larger task be broken down into some smaller and more tangible items?
- ☐ Will a task potentially take longer now that you are working remotely?
- ☐ What other resources might you need to tackle a task in a remote format?
- ☐ What tasks do you think reasonably can be completed in the next week? In the next month?

Team Check-Ins

When working remotely, you may need to intentionally check in with your teammates more often than you would in person. Spontaneous and quick conversations happen more easily when you can run into each other before class or if you are sitting next to each other in a computer lab. You may also find that it is easier to spin your wheels and get stuck on something when you are working alone, as opposed to being able to ask a nearby teammate.

Therefore, it can be helpful to regularly meet with one another while working remotely. Your availability and schedules may vary, but setting up a weekly meeting time can help establish a predictable routine. These regular meetings can provide opportunities to check in with each other, generate good discussion, and answer any questions. Some meetings may end up being shorter than others, but try to stick to your routine. Even if you think a meeting will end up being short, you should still plan to meet that week. You might be surprised what items spontaneously come up during discussion.

Also consider how and when you will check in with your team's faculty advisor. Establishing a routine with him or her can also be helpful. Check with your advisor to see what is the preferred communication method. Also ask whether it is best to schedule meetings ahead of time, on a regular basis, or on an as-need basis. Your faculty advisor's schedule and preferences likely vary, so be sure to ask about his or her preferences early in the process.

Scheduling Questions:

- ☐ Will you meet as an entire team on a regular basis?
- ☐ How often will your subgroups meet?
- ☐ Who should attend each meeting?
- ☐ Who will take notes at the meeting?
- ☐ Will you have an established and regular meeting schedule?
- ☐ What is your faculty advisor's preferred method of meeting? Will you meet on a regular schedule or on an as-needed basis?

Building Your Team

Working virtually can present some additional challenges for building camaraderie on your team. It may not feel the same as getting together in person, and it may take longer to get to know your teammates. Here are a few strategies to help get you started in the virtual environment.

Virtual Social Gatherings

During video or traditional phone meetings, there can be a tendency to jump right into business and skip some of the side conversations about non-work related things. That can make it more difficult to get to know your teammates through video calls as opposed to if you are all on campus together. You may need to get creative and find some alternative ways to get to know your teammates! For example, ask an ice-breaker question at the start of each meeting (favorite movie, favorite place on campus, best professor/class, dream vacation destination, etc.).

Schedule some non-work related virtual gathering with your team. Use a video call to:

- Introduce all of your team members
- Play trivia or other type of game (check out trivia.fyi for trivia question ideas!)
- Socialize over a virtual meal or cup of coffee

Do not worry if video calls and virtual social gatherings feel awkward at first. Stick with it! The more you practice, the more comfortable you and your team will get with it. You will likely find that it helps your team better communicate on the SSBC related tasks as well.

Team Contact List

It is helpful to create a list with everyone's contact information and share with the entire team. Include things like name, email, and phone number, as well as any user handles on other platforms. You may need to designate one person who will update the list with any new teammates.

Recruitment and Team Engagement

It can be hard enough to recruit new teammates during a regular competition season, but what about when things are virtual? It may require creativity to come up with alternative methods, and you might be surprised what you can come up with to recruit and engage new teammates.

Here are some ideas to help get you started:

- ❑ Boost your team's presence on Social Media. Refer to the [SSBC Social Media Tips](#).
- ❑ Host a virtual event and showcase your team. Share photos and stories from previous competitions, and highlight your plans for the next year.
- ❑ Share [this new promotional video](#) from AISC.
- ❑ Ask your professor if you can make an announcement during one (or more) of your classes.

- ❑ Ask your faculty advisor or other professors to recommend students who might be interested in joining the team. Personally invite them to a virtual meeting or event.

It is also important to think about how you can incorporate newer team members into the process, especially those who are earlier in their academic careers. Remember, these are the team members who will take over after you graduate. Consider how you can include them in the design process, as well as fabrication process later on down the road.

- ❑ Include them in your regular check-in meetings
- ❑ Ask them to share their opinions
- ❑ Explain your design process using basic structural mechanics (this is good practice for you, too!)
- ❑ Invite them to participate in fundraising efforts
- ❑ If you have experience from previous years, share past stories, photos, and designs

Success Stories

Do you have a success story to share? Did something work really well for your team this year? Did something surprise you? We want to hear about it!

Tag us on Social Media and tell us your story using the hashtag #steelbridge2021. You can find us @AISC on Facebook, Twitter, Instagram, and LinkedIn.

Plan Out Your Project

For a successful performance at the Regional Event and National Finals, it's important to get started early! Below is an example timeline to ensure your club has the resources necessary, is properly registered, and has enough time to practice constructing your bridge for competition. *This timeline may vary depending on school calendar and date of Regional Event.

September

- Establish local SSBC Club/ Team
- Create budget and form fundraising plan
- Set specific team assignments
- Hold first virtual team meeting

October

- Register team for Regional Event (Deadline October 30)

October - December

- Design your bridge starting with initial concepts and refine through iterative process
- Solicit for sponsorships and financial support
- Identify fabrication and storage location and receive approval from facility if needed
- Attend AISC webinars and virtual professional events

January

- Finalize bridge design
- Procure materials and make plan for fabrication

February - March

- Work on bridge fabrication
- Make travel arrangements for Regional Event (if applicable)
- Continue solicitation for sponsorships and financial support
- Finalize and submit club roster (if applicable)
- Practice timed bridge construction

April

- Showcase your hard work at the Student Steel Bridge Competition - Regional Event!

May (Pending advancement at the Regional Event)

- Make travel arrangements for National Finals
- Make bridge modifications as allowed in the SSBC Rules
- Practice timed bridge construction
- Showcase your hard work at the Student Steel Bridge Competition - National Finals!