

Two of the main hallmarks of the CU First-Year Seminar are supposed to be “*collaborative experiences*” and “*long-term, high-impact learning.*” We’ve found that a great way to incorporate those ideas is to have you team up and create **group projects**. Here, you can accomplish something big . . . something that may even reach out into the world and influence people outside our classroom.

TIMELINE

1. **Weeks of September 9–13, 16–20:** Building Your Team. Although you’re free to organize into groups in your own time, we will also devote some time in one or two classes for informal discussion and group-building. Below is some additional information about how your [CliftonStrengths](#) results might help to create the most effective and awesome groups.
2. **Friday, September 27:** Submit Your Initial Plan. This is a brief (approximately 1 page) document that tells me who is in the group and what you all plan to do. I’ll do my best to deliver feedback (and official approval) back to your group by Monday, September 30. See below for more details.
3. **Throughout October:** Developing Your Idea. This is the time to start working on your project. If you identify any problems or potential stumbling blocks (or if you need to change your topic), please let your instructor know as soon as possible.
4. **Friday, November 1:** Mid-Course Progress Reports Due. By this point, there’s only about a month left in the semester, so I hope you’re well on your way. This Progress Report is a brief (again, about 1 page) document that describes:
 - how things are going,
 - what you plan to do during your in-class presentation, how much time do you think you will need, and any preferences about which day you may prefer to present,
 - what you will be submitting to document your project.
5. **December 6, 9, 11:** In-Class Presentations. In the final week of class, each group will present their projects to the rest of the class, and also submit their projects. Each presentation and submission is likely to have unique aspects, depending on the type of project (i.e., if it’s a movie trailer, we watch it and discuss; if it’s a game, we play it; if it’s a plan for a debate, the whole class has the debate).

Other details about the projects are given below.

TEAM BUILDING

The typical size of a group will probably be 3, 4, or 5 students, but I’m willing to hear you out if you have specific and feasible plans for a smaller or larger group.

Although your humble instructor is still not sure how seriously to take the [CliftonStrengths](#) results, they do seem to highlight aspects of one’s personality that are relevant to working in groups. On the next page is one way of breaking up the 34 strengths into four categories. A strong and versatile group will probably have members with strengths in *all four* categories:

EXECUTING	INFLUENCING	RELATIONSHIP BUILDING	STRATEGIC THINKING
People with dominant Executing themes know how to make things happen.	People with dominant Influencing themes know how to take charge, speak up, and make sure the team is heard.	People with dominant Relationship Building themes have the ability to build strong relationships that can hold a team together and make the team greater than the sum of its parts.	People with dominant Strategic Thinking themes help teams consider what could be. They absorb and analyze information that can inform better decisions.
Achiever Arranger Belief Consistency Deliberative Discipline Focus Responsibility Restorative	Activator Command Communication Competition Maximizer Self-Assurance Significance Woo	Adaptability Connectedness Developer Empathy Harmony Includer Individualization Positivity Relator	Analytical Context Futuristic Ideation Input Intellection Learner Strategic

EXAMPLE PROJECT IDEAS

The topics listed below are there to get you thinking. You can certainly decide to grab one of these, or you can come up with a brand-new idea of your own. It's got to be somehow relevant to the overall sunny theme of this course. First, I'll list some ideas that are reasonably straightforward and "ready to go:"

- **You Are Movie Producers:** Think of a concept for an engaging story that involves some of the Sun-themed topics of this course. Your project would include a detailed plot outline, summaries of big scenes, thoughts on choosing the best actors and songs for the soundtrack, and a full video trailer (the *iTrailer* option in Apple's *iMovie* software makes it kind of easy).
- **You Are Game Designers:** The format is up to you—board-game, card-game, RPG, video-game, computer/phone app, whatever—but the class does need to be able to play it at the end of the semester. The game needs to have some kind of topic/theme relevant to the course, but it doesn't need to be one of those boring "educational games" that you've probably played in school.
- **Space Weather Impact Database:** Here's a way that you can help the wider science community. [Here at CU](#), we're building a "data portal" that will let you input a date, and it will give you all the scientific measurements relevant to *space weather forecasts* for that time period. However, nobody has made a comparable database of the societal impacts from past space-weather events: i.e., all the times when the Sun caused power blackouts, or when satellites got zapped, or astronauts had to take shelter on the space station. If your group can start building a useful database of these kinds of human-facing events, it would be really helpful and timely!
- **Discovery Channel Special:** If your group has some expertise in making/editing videos, you can try your hand at producing an engaging science documentary on some topic of this course. For this option, you should find at least 3 experts to interview (which shouldn't be too difficult, because Boulder is a national hub of solar scientists and engineers!), and also include relevant animations and other video clips.

Next, I'll list some ideas that are more exploratory. I have not yet supervised any students that have done stuff like this, so we would be learning together:

- **Wikipedia Edit-a-thon:** We use it all the time, but for some topics in science, the articles are sometimes incomplete, often out of date, and occasionally even misleading or erroneous. Would you like to join the world of [Wikipedia contributors](#) and help improve its coverage of the solar topics of this course? Your project would first involve identifying some specific places that need improvement, and then you'll work on making those improvements.
- **The Great Debate:** Can you think of some concepts in the class where it's likely we are not all in 100% agreement? If so, then your project can be to split up the class into two sides (maybe with some students serving as moderators) and guide us in carrying out a debate. Some of your preparation would be to collect "ammunition" for both sides of the arguments, to distribute on the big day, since the other students will not be able to prepare as much as you have. Example questions include: How much should the government fund solar power? Should we eliminate Daylight Saving Time?
- **Feasibility Study:** You've been tasked by NASA to figure out how the Sun will affect its plans to put humans in a permanent settlement on Mars in the next few decades. You need to write a report and do a PowerPoint briefing that will inform the NASA big-wigs about what they need to do, and you also need to figure out how much it will cost to carry out your recommendations.
- **A Better Sundogger?** If your group has a knack for building things, it might be interesting to try replicating (and improving on!) something like the solar hot-dog cooker [described in detail online](#) by Prof. John Wallin from Middle Tennessee State University. Are there other foods that are just calling out to be cooked directly by the Sun with a custom-made thing like this?

Notes:

For any of the above ideas, I will gladly help get you started with resources, online or library searches, and names of helpful people to contact.

If two or more groups want to do projects based on the *same idea*, we may have to discuss it further. Some of them (like the game or movie trailer) are likely to end up being so different that it would be great to see how two groups approach it in their own unique ways. Other ideas (like the space weather database or Wikipedia edits) probably work best if we only have one group working on it.

INITIAL PLAN: WHAT TO INCLUDE

Please type this up as a document (i.e., PDF or MSWord) and have one group member email it to your instructor by Friday, September 27. It should contain:

1. A description of the project idea. If it has been adapted from one of my example ideas, please provide a bit more information that goes beyond what I wrote.
2. A list of the group members, along with some specific notes about how each individual will contribute.
3. Initial thoughts about how you'll plan out the rest of the semester. You don't need to follow a strict schedule (other than the timeline I provided on the first page), but the more thought you put into your planning, the better prepared you'll be.
4. Initial thoughts about what you plan to do during your in-class presentation, and what you will be submitting as the final product.

Although I'm not really looking for glitzy salesmanship here, I do hope you'll put your best foot forward and highlight how interesting/cool/awesome you think your final product will be. If you plan to be any kind of entrepreneur or freelancer, the **pitch** (sometimes called an **elevator pitch**) is something you'll be learning more about!

GRADING

The group project makes up 30% of your grade in this course, and below is a breakdown of how those points will be broken down:

5%	Initial Plan: on time? realistic & relevant?
5%	Mid-Course Progress report: on time? includes necessary info?
10%	Presentation: as scheduled & planned? all members contribute?
10%	Final Submission: as scheduled & planned? all members contribute?
30%	Maximum total points

I hope to write up a more detailed grading rubric later in the semester. For now, I'll just paraphrase the top-level guidelines from Homework 3; i.e., an effective project/presentation is **effective** and **compelling**. "Effective" means that your work is clear and understandable to its intended audience. Are you getting your point across? "Compelling" essentially means that it is complete (i.e., no glaring missing pieces), thoughtful, creative, and honest. Your audience feels enriched after engaging with your material. Meeting these criteria is a lot easier if you pick a topic of interest to you.