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CEME 397
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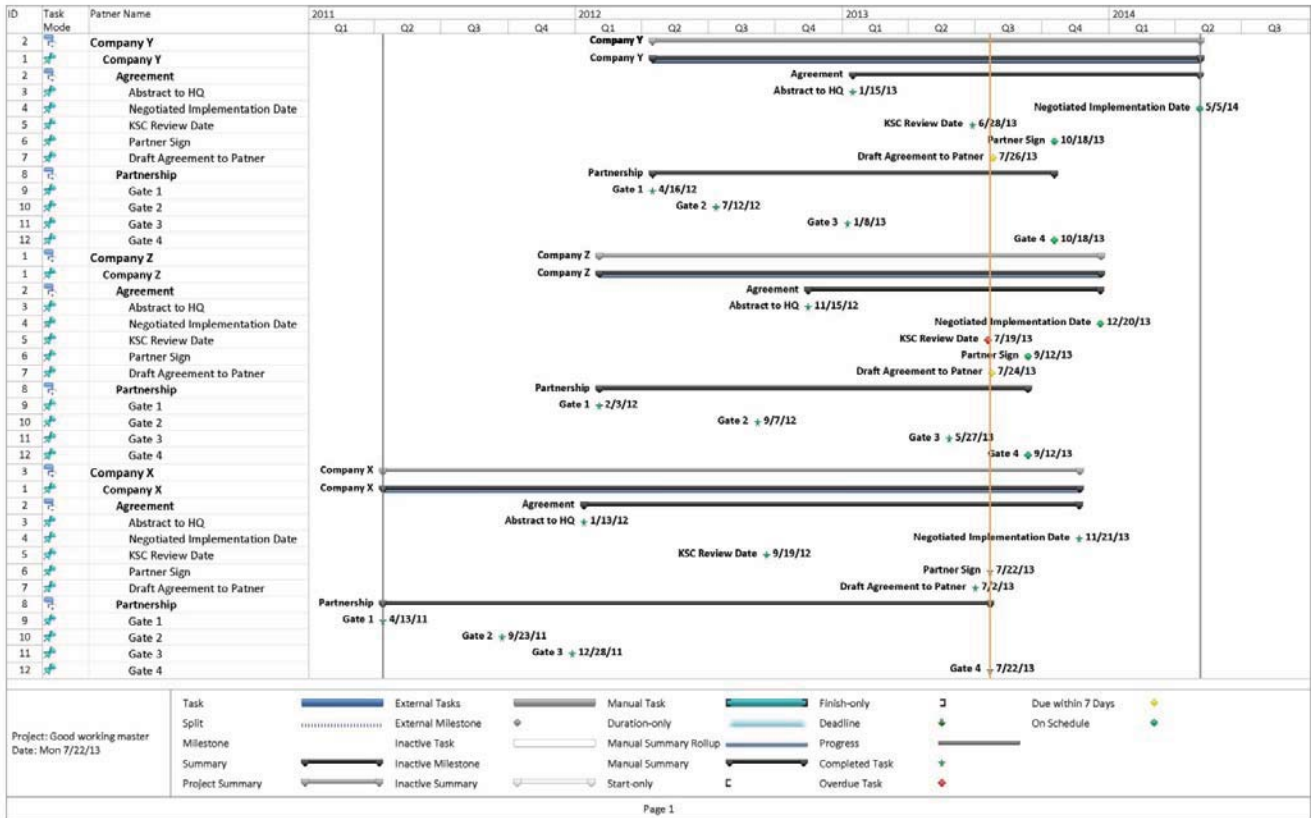
Center Planning and Development Student Engineer

This fall I was the Student Trainee (Engineering) Pathways Intern (co-op) at the Kennedy Space Center (KSC) in the Center Planning & Development (CPD) Directorate. CPD works with commercial companies who are interested using KSC's unique capabilities in spaceflight, spacecraft processing, ground systems and Research & Development (R&D) projects that fall in line with NASA's mission and goals. CPD is divided into four (4) groups: (1) AD-A, which works on the Master Planning for the center, (2) AD-B (where I am), which works on project engineering and integration, (3) AD-C, which works on partnership development, and (4) AD-T, which works on the R&D partnerships. CPD's main goal is to one day make KSC the world's largest spaceport and maintain the center as a leader in space exploration. CPD is a very diverse group with employees having a wide knowledge of not only the Space Shuttle, but also that of the Apollo era. Our director of CPD, Scott Colloredo, is on the advisory board for Commercial Space Operations (CSO) and has a degree at ERAU. I worked on a number of different tasks for AD-B, as well as CPD, that includes, but not limited to: reviewing and reissuing engineering drawings from the Apollo and Shuttle eras, to supporting NASA rocket launches (MAVEN), and working on actual agreements/proposals that will be used in the partnership process with multiple partners. Most of the work I have done is sensitive information and cannot be disclosed.

One of the areas I worked on over the fall was "stamping" old engineering documents/drawings from the Apollo and Space Shuttle eras. By stamping, I mean "copy & paste" very important export controlled text statements onto the drawings. You might be saying, "That's not engineering," but I tell you, when I was going through the drawings, I was able to see the different drawings come to life. I was able to see what the NASA Engineer's back in the 60's, 70's, and 80's came up with to design the things they did. It was truly amazing. If it wasn't for my EGR 120 class, I might not have been able to see the complex and difficult work that was done to make these facilities viable in an age of little to no computing power.

The next part of my duties during this tour was that of continuing my work from the summer (I worked in AD-C). Over the summer, I was responsible for creating an Automated Partnership & Prioritization management Tool (APPT) for evaluating near term KSC partnership planning for perspective Commercial and other Government partnership agreements. The tool entailed of learning Microsoft (MS) SharePoint and how to import a MS Project "project" into the CPD SharePoint site. I also used multiple online sites and PDF books along with a NASA Engineering employee Luther Setzer, who is very knowledgeable in MS Project, to learn other tools and shortcuts in MS Project. I set-up a "crash course" in MS Project for the Project Development Manager's (PDM's) that were not familiar with the software. I merged several MS Project schedules and created an integrated schedule that could then be sorted into various Top Ten (10) views that is used by the CPD Director, KSC Center Director - Mr. Robert Cabana, and potentially NASA Headquarters. I also created an instruction sheet on how to do basic tasks, and other more complicated tasks, in MS Project for all of the PDM's. Now complete, the only thing that has to be done is for the PDM's to change dates on their individual schedules. Once the PDM's save their schedules on the CPD Share Drive (File Share) as well as the CPD SharePoint site, the master project and different views will be automatically updated. Every Friday, one person in the

CPD Directorate uploads the master and different views on to the CPD SharePoint site. It was handed-over to CPD Directorate on August 6th, 2013 and is used by the CPD Director, Mr. Colloredo from that day forward. After completing my summer tasks, I created two (2) additional master projects, one (1) for AD-A and one (1) for AD-B.



Along with scheduling, I “shadowed” two (2) co-workers on some of their partnerships. The partners are: (1) Micro Aerospace Systems (MAS) and (2) a Federal Funded Research & Development Center (FFRDC). Each of the partners are looking/doing research and/or testing at KSC in the very near future. I am helping my co-workers (Cliff Hausmann and Amy Houts-Gilfriche) with working out budgets, agreements, and schedules for the partners. A lot/most of the work I am doing with Amy and Cliff is sensitive and cannot go into details, but I can say that my COM 221 and EC 225 courses at ERAU have helped me with these tasks.

Besides the two partnerships, I also worked on what is called Announcement For Proposal’s (AFP’s) with my mentor Andrew Knutson. Right now there is one (1) AFP out for Launch Complex 39A (LC 39A or Pad A) for prospective partners to use for their own rocket commercial launches. The others that I am supporting are yet to be released and cannot be mentioned until they are released, but I can say that I am working on schedules for all of them. Again, my COM 221 course has helped me with this step.

Another task that I was asked to do was to support the Morpheus lander project while it was at KSC during November and December. Morpheus is a NASA run and funded lander project that might be used in later lunar and “deep space” missions. Morpheus’ maiden flight was cut short when the 1st lander had an error and “crashed and burned” in the summer of 2012. Now Morpheus-2 is back at KSC and is currently doing testing at the Shuttle Landing Facility (SLF) again.

Lastly, I supported the Mars Atmosphere and Volatile Evolution (MAVEN) launch on November 16th, 2013 and then watched the launch from the “best seat in the house” on November 18th, 2013. On November 16th and 17th, 2013, the External Relations Directorate held events leading up to the launch of MAVEN for invited NASA guests. I helped with making sure guests were in the correct location, got on the correct buses, and made sure no one was outside of where they were supposed to be. To my knowledge, everything ran smoothly and no serious instances occurred.



The current state of the main project that I worked on is still on going and will be continued when I return to school by another employee.

Some new skills and knowledge that I gained has been great. I learned how a KAVITS (Kennedy Agreement Video Teleconferencing System) is conducted, how to do even more powerful and meaningful tasks in MS Project, how to present High Level data in an “All Hands” type meeting with upper and senior management, and how to write/review AFP documents and agreements. I also learned how the different organizations work together to make a project come together. I feel that my educational background at ERAU truly helped me learn how the work atmosphere operates. I feel that my dream of working at Kennedy has come true.

While the last thirteen (13) weeks went by very fast, I was able to make a lot of decisions on my own, as well as proposing solutions and taking some direction with tasks I wasn't 100% sure about. My supervisor, Mrs. Marie Reed, was very supportive with all the work that I completed. I would say she directly oversaw approximately 50% to 70% of my work. Mrs. Reed allowed and encouraged me to take some of the tasks at hand and just go with it, but allowing me to ask questions, as I needed throughout the duration of the task.

In closing, I truly learned a great deal this fall. I also got an excellent chance of a lifetime, to take a tour of the Astronaut Crew Quarters in the Operations & Checkout (O&C) building at KSC. All the different tasks that I worked on both strengthened and challenged me, not only educationally, but mentally as well. I feel at home at Kennedy Space Center. As I mentioned above, I feel my dream of working at NASA full time has come true. The Center Planning & Development (CPD) Directorate welcomed me with open arms in summer and continues to make me feel at home. I learned a lot about the corporate culture working in CPD, such as work ethic and deadlines. The tasks given to me will help my education down the road. I have learned an immense amount of life and work lessons as well. Some were difficult at first, but as time went on those lessons became every day habits. I feel the tasks given to me were everything I expected and didn't expect. I can't emphasize enough how much I learned this fall and that I am truly grateful for this opportunity. My mentor and supervisor were extremely supportive of me and I know that we will always be in touch with everything NASA.