

Rutgers IC CAE Certificate in Intelligence and National Security:
Critical Technology Studies
STEM Track
Program Summary

Teresa Ngo and Christopher Lugo

The Rutgers IC CAE Certificate program was a 3-day session that introduced students to the world of data science and technology. Participants learned how to apply these skills in a national security context through a scenario-based simulation on Day 2 and 3. By the end of the program, students gained knowledge of the critical technology being used in the intelligence and national security fields.

The first day started with welcoming remarks from Ava Majlesi, Esq. before transitioning into the Current Threat Assessment and the Application of Technology talk by Ian Cornell of FBI-Newark. The five main take-aways from this portion of the program were as follows: 1. Economic security is national security, 2. China is a threat, 3. There is a breakdown of post-WW2's conventions, 4. New technology is leveling the playing field, and 5. Terrorism persists and society has to come to accept the status quo. From this talk, students learned how growing technology is changing the threat paradigm and how data science is crucial in combating these threats. After Ian Cornell's talk, the students split into the STEM and non-STEM tracks based on their levels of previous knowledge in data science. One group would attend one session while the other group attended the other, then after lunch, they would switch. One session learned how to use Tableau, a data visualization software, with Dr. Scott Fisher from New Jersey City University. This was definitely a useful session in terms of visualizing data sets in multiple new ways. It is something that is easy to learn and will definitely be used by those entering the field. The other session first learned more about data science, what big data entailed, and decisions driven by data before going into the hands-on workshop with Rutgers Discovery Informatics Institute (RDI²). In this workshop, students learned about how to manipulate data using Python functions and Jupyter. While the information was interesting to learn, students found the Tableau session to be much more engaging and user-friendly; the RDI² session ran too quickly and was especially confusing for the non-STEM track.

The second day of the program started with an Analytical Writing and Briefing session with Dean Baratta and Paige Schilling after breakfast. They gave us a lesson on how to write analytical writing and condensing written work. Bottom Line Up Front (BLUF) was a big deal because you want whomever is reading your work to get the main point of it as soon as possible. If your target audience is an important decision maker such as the president than they have other responsibilities they need to tend, so they need to be able to just read your title and first line to

get the gist of the whole report. There were other lessons taught in relation to analytical writing such as avoiding wordy sentences, phrasing your sentences, get to the point, detailed reports, the five questions and more. Dean Baratta and Paige Schilling went over some of the basics of briefing skills such as professionalism, language, whom to target your attention too, along with their personal experiences from briefing people over the years. After that we were split up into our groups, Christopher being in Group 3 and Teresa being in Group 4, and we had to read through tons of fabricated evidence with our groups and make a 1 page analytical report. It had to contain the most important information from the large amount of information we received so we had to comb through it, discuss what was the most concrete or most decisive pieces of information to add to our reports. It was a challenge to keep the report under the 1 page limit.

On the last day of the certificate program, students met with their groups to complete and prepare their briefings. Each team then presented their threat assessments to a panel of experts, who went along with the simulation, asked questions, and critiqued their slides and presentation skills. Afterwards, there was a final career panel with members from the FBI, CIA, NCTC, NJOHSP and other agencies. The panelists were asked questions such as: what skills would be important in hiring an analyst, what was the changing threat environment in their opinion, how the panelists got into their current careers, how students could get into the intelligence community, and if they were to go back in time and change anything in relation to their careers or school if they would. The panelists answered questions and talked to students directly afterwards as well. The career panel served to show students the multiple ways they could get into the intelligence field and give them advice on how to succeed. After the career panel was finished, the students got their certificates for the program and filled out surveys to provide feedback.