



MAY 31, 2022

Submitted in Support of: Auburn University System Engineering  
Technician (SET) Program Development and Application (CS-20-1601)

**SET INITIAL STUDENT INTERN  
OPPORTUNITIES REPORT (FINAL)  
SYSTEMS ENGINEERING TECHNOLOGY PROGRAM**

CHRIS CRUMBLY/IDEA  
VICTORY SOLUTIONS  
AUBURN UNIVERSITY  
CALHOUN COMMUNITY COLLEGE



## **Systems Engineering Technology (SET)**

The objective of SET is to enable and accelerate the incorporation of Digital Engineering and Manufacturing into the workplace through education and partnership. It is our vision to provide a national collaborative center for identifying, sharing, and recommending best practices and solutions in Digital Engineering and Manufacturing. We initially implemented SET through a community college or 2-year curriculum vehicle which should appeal to incoming freshmen and career transitioning professionals including returning veterans.

The SET program is structured as a concentration under the umbrella of the existing CIS Associate in Applied Science (AAS) degree program. This strategy provides a time and cost advantage over creating an entirely new AAS degree and minimizes procedural risks, and all new programs in the CIS department have been structured as concentrations in recent years. The program will require 64 semester credit hours to complete and can be completed by a full-time student in two years. Currently, many CIS majors attend part-time, with the median time to completion for recent graduates being three years. We anticipate SET students will behave similarly.

## **Intern Report**

Key to Phase 2 SET goals is creation of apprenticeship and internship opportunities for SET students. Through existing work experience and ongoing discussions with potential employers like US Army CCDC, NASA and Boeing, we believe there is a significant demand for both this early support/familiarization as well as enhanced preparation for further employment post-graduation. IDEA will work with employers to develop 2-year apprenticeships and 12-24 week internships to coincide with Cohort 1 instruction. This opportunity should also significantly enhance marketing of this new skill capability at area High Schools, as well as career transitioning professionals and returning veterans.

SET internships leverage educational investment with employer critical needs. The internship opportunities play a large part in the overall success of the SET program. To this end it was important for the students to have an early opportunity to talk with interested employers. On December 7, 2021, IDEA in conjunction with Calhoun Community College (CCC) held a Speed Networking event at Calhoun's Huntsville, Alabama location. The event was open to all students enrolled in the SET curriculum. Of the 25 enrolled students, 16 attended the event. Six of the 25 students were dual-enrollment high school students and not eligible for internships and three other students already have steady employment. Each student had an opportunity to spend eight minutes with the representatives from each of the companies or government entities who attended either in person or virtually.

### **Potential employers who participated in December 7, 2021 event:**

Jacobs	US Army Aviation & Missile Command
Lockheed Martin	Elbit Systems of America
Victory Solutions	Hill Technical Solutions
Georgia Tech Research Institute	Dynetics
Strata-G Solutions, LLC	Trideum

IDEA and CCC had extremely good feedback following the event. The students were able to meet with and talk with ten potential employers in just a few hours of time including three who participated virtually through a laptop videoconference connection. The participating businesses expressed positive comments about the caliber of students who participated, and the knowledge displayed after just one course in the SET curriculum. There was also positive feedback on the structure of the event. The large facility and the ability to interact with 16 students in just over two hours total time seemed to be a win-win for the companies and students. This is most likely a structure that will be duplicated in future job fairs and networking events for SET and IDEA.

While the premise behind the December Speed Networking event was to expose the SET students to employers for a potential summer 2022 internship, we are delighted to report that of the 16 participating students 13 have already had at least one call back. As of this week six students have had offers for immediate intern positions. This excellent response to the SET students displays a high level of interest in securing and maintain these students early in their training despite the lack of completion of a modeling class. It also shows a high level of confidence in the SET program to generate the skills required to accelerate the adoption of model-based systems engineering. A SET intern will be expected to earn \$12-\$20 per hour for 640 hours nominally. That calculates to be \$7680 - \$12,800 from industry sources. With a goal of 20 internships at \$7680, the industry sourced value is \$153,600 per year for two years totaling \$307,200.

### **Update: May 31, 2022**

*Initial SET intern program is a success!*

All SET students have, as required for class, resumes submitted with Calhoun Community College's career services. The following chart shows the outcome of early interviewing and participation in the Internship program. The hourly rate of

the six interns, who are currently working, falls on the high end of IDEA’s expected range of pay which was \$12-\$20/hour. This information continues to show the industries’ need and acceptance of this new skillset.

**Six Internships Accepted**

2 Interns	Strata-G	Started May	~20/hr.	Part time
2 Interns	Victory Solutions/Boeing	Started May	~20/hr.	Part time
1 Intern	Trideum	Started May	~18/hr.	Part time
1 Intern	DEVCOM Aviation & Missile	Working Now	63K/YR will transition to higher as completes degree	Full time

The following is a list of 11 other SET students’ participation and outcome of the internship process as of mid-May.

- Two students are already Full-time employees and not available for internship.
- One student is a rising High School Senior and cannot work beyond summer and had to decline an offer. Still available for internship.
- One Student accepted an offer then had to withdraw due to personal reasons but will be available later.
- One student had to decline an offer due to personal reasons and is still available.
- Four Students have had interviews and are still available.
- One student has constraints to availability but will be available later.
- One student has not participated in the internship process at this time.
- An additional offer was pending as of May 31, 2022.

IDEA is pleased with our initial internship successes.

The following is a recent Press Release from IDEA that gives a good overview of the SET internship and specifically two of the recently hired students.

*Two students enrolled in the System Engineering Technology (SET) program at Calhoun Community College (CCC) are on their way to applying their newly acquired skills as interns on Boeing's (NYSE: BA) Ground-based Midcourse Defense (GMD) program. These students hired and placed as interns by Victory Solutions, a Huntsville based engineering solutions company, will help bridge the workforce gap in the high-demand field of Model-Based Systems Engineering (MBSE). SET interns and graduates will provide critical modeling skills to enhance government and industry efforts to transition from a "paper" to a "digitally" based product development life cycle.*

*Developed by the Institute for Digital Enterprise Advancement (IDEA) and derived from Calhoun Community College's (CCC) 2-year Computer Information System Associate of Applied Science degree, SET includes a focus on work-based learning that complements associated academic classes. The SET Internship provides students the opportunity to gain relevant modeling and database integration work experience, an employer sponsored security clearance (if needed), and skills that typically take a minimum of 6 years to obtain in academia/industry today. SET Internships also allow employers to best determine the most efficient way to incorporate this new skill set into their system engineering organizations, while providing feedback to improve IDEA/CCC curriculum as it continues to evolve.*

*Not only do the SET students receive exceptional academic course instruction at CCC, but they also have opportunities to meet and interact with potential employers. One such opportunity was an IDEA-hosted Speed Networking event held in December of 2021 at CCC's Huntsville campus featuring twelve potential employers. The 15 SET students had 8-10 minutes to interview and interact with each of the participating companies and government organizations. The two interns hired by Victory Solutions are a direct result of the networking event. The Victory Solutions SET interns will work either full or part-time over the next six months, depending on their class load and technical work requirements.*

*Ron Porter, IDEA Vice President, stated, "We are pleased with the initial group of modelers coming out of the SET program and would like to thank Victory Solutions and Boeing as well as the other employers who are actively seeking to employ the SET interns. The firsthand, work and learn experience is a crucial step for the students in their education. We are pleased to partner with CCC to offer this new skillset."*