



## Engineering Internships and Co-ops in the SUS

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### HIGHLIGHTS

- All engineering programs in the System offer students the opportunity to engage in internships or cooperative educational experiences (co-ops) & most students can incorporate these experiences without adding academic credits to their degree program.
- Students have served as interns at Northrop Grumman, Lockheed Martin, Siemens Corporation, HeartWare, Boston Scientific, Audi, & Fiat Chrysler Automobiles.
- Of the 2019 graduating class, approximately 34% of students completed an internship & 4% completed a co-op.

### Introduction

The State University System (SUS) and the Board of Governors are committed to student success and opportunities that help students excel after graduation. All SUS institutions have adopted high-impact learning practices. These practices often require students to spend prolonged time working on projects or tasks related to their career outcomes. Specifically, internships and cooperative education experiences (co-ops) afford undergraduate students the opportunity to test and apply the knowledge gained in the classroom to real-world scenarios. In the case of engineering, these experiences prove vital in providing students with the opportunity to gain on-the-job training and learn from licensed engineers. This information brief reviews the present status of engineering internships and co-ops in the SUS.

### Engineering in the SUS

Eleven out of the twelve institutions in the SUS offer ABET-accredited degree programs through ten colleges of engineering<sup>1</sup> in such areas as aerospace, biomedical, chemical, civil, computer, electrical, environmental, industrial, and materials science engineering. While engineering departments vary in the breadth of programs offered, all have committed to offering undergraduate students the option to engage in internships and co-ops.

### Internships and Co-ops

While internships are offered by all colleges of engineering, only Florida Polytechnic requires that undergraduate students participate in an internship prior to graduation and internships are strongly encouraged by all others. Internships are generally completed during a single semester or during the summer. In most cases, the student works with employers, the career center, and the department to locate and negotiate the terms of the internship. These negotiations include payment, number of hours worked, and academic credit. As a result, the nature of the internship varies from student to student. Internships are an invaluable learning tool that grants students opportunities to apply classroom knowledge to real-world settings with companies like Northrop

<sup>1</sup> Florida Agricultural & Mechanical University and Florida State University operate a joint college of engineering

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Grumman, Lockheed Martin, Siemens Corporation, HeartWare, Boston Scientific, Audi, and Fiat Chrysler Automobiles.

Co-ops differ from internships in that they are paid positions and extend beyond one semester. Although students are primarily responsible for negotiating the terms and conditions of the co-op, this type of educational experience is often coordinated through the career center. Students receive college credit for structured work experience. Students may work part-time and take courses simultaneously, or they may work full-time one semester and then take courses the following semester. Currently, six colleges also offer co-ops in addition to internships (See Table 1).

One SUS institution, the University of Central Florida (UCF), partners with Lockheed Martin to provide students with a third option: a college work experience program. Through career services, students may apply for job opportunities at Lockheed Martin. If selected, students must commit to working at least two consecutive semesters; however, they do not receive academic credit for participating in the college work experience program. Of the 2018-2019 UCF graduates, 112 students participated in the UCF Lockheed Martin College Work Experience Program.

### Student Participation

Of the baccalaureate engineering students graduating in the 2018-19 Academic Year, 1,625 (34%) students reported participated in an internship and 172 (4%) completed a co-op. Some students completed more than one internship or co-op. Of the 2018-2019 graduating classes, 655 (14%) students reported completing more than one internship and 29 students reported completing more than one co-op (.07%). It is important to note that students may also complete internships that the institutions do not have a record of and so these numbers likely underrepresent the actual number of engineering students' who completed an internship experience.

**Table 1. 2018-2019 Engineering Baccalaureate Graduates Participation in Internship or Co-op Opportunities, by Institution.**

Institution	Internship	% of Graduating Class	Co-op	% of Graduating Class	Number of Graduates
<b>FAMU-FSU</b>	239	66%	n/a	n/a	361
<b>FAU</b>	91	23%	n/a	n/a	402
<b>FGCU</b>	82	58%	n/a	n/a	142
<b>FIU</b>	24	4%	40	6%	679
<b>POLY</b>	114	98%	n/a	n/a	116
<b>UCF</b>	47	5%	32	3%	1,001
<b>UF</b>	857	70%	40	3%	1,218
<b>UNF</b>	59	42%	35	25%	139
<b>USF</b>	91	14%	5	1%	646
<b>UWF</b>	21	24%	20	23%	88
<b>Total</b>	<b>1,625</b>	<b>34%</b>	<b>172</b>	<b>4%</b>	<b>4,792</b>

Source: Florida Board of Governors staff analysis of data provided by institutions in October 2019.