

COVID-19 CREATES A REMOTE LEARNING CURVE



Since April, ASME Market Intelligence has been surveying more than 1,500 engineers in industry and academia on their experiences during the COVID-19 pandemic and its impact on engineering. From the elimination of travel to the full-scale move to online instruction, engineers working at academic institutions have seen major changes on campus since spring.

1,500+ ENGINEERS



In spite of the move to remote learning, professors and instructors see much less enthusiasm for these tools as time goes on. And many anticipate hard times ahead, with R&D budgets expected to be slashed and enrollment from foreign students predicted to decline.

The following results stem from the fifth wave of questions, which were posed toward the end of summer.

WHAT DOES THE FALL SEMESTER LOOK LIKE?

Most engineering colleges are starting the semester with a hybrid of **in-person** and **online classes**, though that mix will likely change depending on local conditions.

Some classes will be held in person and there is a drive to get everything in person again. However, the criteria to make that happen probably won't be met – Mid-career academic

Classes will be offered in a hybrid format; online with some in-person component	58%
Classes will be conducted online	47%
Classes will be offered via distant learning app	35%
Labs will be conducted via distant learning app	25%
Recruitment events will be canceled	14%
School is closed until further notice	12%
Labs will be canceled until further notice	11%
Senior projects will be canceled	3%

IN THE SHORT TERM, BIG SHIFT TO REMOTE EDUCATION, LESS TRAVEL

Engineers in academia see their colleges eliminating travel while expanding **online learning** and **training options**. Some respondents also see a move to help support students who may be struggling financially.

I think we'll see an increase in student enrollment as many who would take a year sabbatical after high school now will start directly – Mid-career academic

	LATE SUMMER	CHANGE SINCE SPRING
Eliminating non-essential travel	66%	-6%
Expanding remote learning options	66%	1%
Increasing online training offerings	61%	3%
Issuing information regarding coronavirus/COVID-19	57%	-6%
Allowing student employees to work from home	51%	-7%
Reduction of travel budget	48%	22%
Offering online testing	47%	0%
Providing financial assistance to students in need	39%	18%
Keep paying students who are employed by university	35%	-2%
Offering instruction during the summer	33%	12%
Moving all classes and testing online	31%	-38%
Adjusting the academic calendar	29%	13%
Contributing to local charities, food banks, etc.	17%	-2%
Allowing students to delay any outstanding payments	16%	2%
Adding curriculum to address coronavirus/COVID-19	9%	2%

LONG TERM, LIFE ON CAMPUS EXPECTED TO CHANGE

Over time, respondents see an **increasing financial impact** due to the loss of research funding and tuition from international students. They also believe that the interpersonal connection of campus life will be valued more than ever.

After all this, there will be an increased enthusiasm for in-person learning and face-to-face interaction with professors – Senior-level academic

	LATE SUMMER	CHANGE SINCE SPRING
Reduction or elimination of travel budget	54%	11%
Drop in enrollment by foreign students	51%	10%
Decrease in R&D funding	40%	1%
Gap in education for current students	39%	-9%
Drop in enrollment overall	37%	6%
Decreased student enthusiasm for online learning	36%	10%
Academic staff reduction	30%	6%
Closing certain locations/campuses/dorms	17%	2%
Increased student enthusiasm for online learning	15%	-17%
Increase in R&D funding	9%	3%