

NATIONAL FOUNDATION FOR AMERICAN POLICY
.....
NFAP POLICY BRIEF » FEBRUARY 2018

**DECLINING INTERNATIONAL STUDENT ENROLLMENT
AT U.S. UNIVERSITIES AND ITS POTENTIAL IMPACT**

EXECUTIVE SUMMARY

The number of international students enrolled at U.S. universities declined by approximately 4 percent between 2016 and 2017, according to an analysis of U.S. Department of Homeland Security [data](#). More than half of the decline in enrollment can be attributed to fewer individuals from India studying computer science and engineering at the graduate level in 2017. The number of international students from India enrolled in graduate level programs in computer science and engineering declined by 21 percent, or 18,590 fewer graduate students, from 2016 to 2017. Indian graduate students completing degrees in science and engineering at U.S. universities are a major source of talent for U.S. companies.

In the overall data, the number of international students enrolled at the graduate level in science and engineering fell by 14,730, or 6 percent, between 2016 and 2017, which represented about half of the overall drop in international students. If the trend continues, it could have a profound negative impact on U.S. students and U.S. universities, as well as American companies and the U.S. economy. U.S. government policy, such as the Trump administration's announced plans to restrict the ability of international students to work after graduation, could accelerate any negative trends.

Table 1
International Student Enrollment at U.S. Universities: 2016 to 2017

Student and Level	2016	2017	Decline From 2016 to 2017
International Students Enrolled at U.S. Universities (Undergraduate and Graduate Levels)	840,160	808,640	-4% (31,520)

Source: National Foundation for American Policy; U.S. Department of Homeland Security, U.S. Immigration and Customs Enforcement, special tabulations (2017), Student and Exchange Visitor Information System (SEVIS) database; National Science Board, *Science and Engineering Indicators 2018*.

ANALYSIS OF DATA

Between 2016 and 2017, the number of international students enrolled at U.S. universities declined by 31,520, or approximately 4 percent, from 840,160 in 2016 to 808,640 in 2017. (See Table 1.) As illustrated in Table 2, the decline in international student enrollment in 2017 follows consistent increases in enrollment since 2012.

The government data were published in a chapter of a recently released [report](#) by the National Science Board, which serves as the board of directors of the National Science Foundation, and compiled from the U.S.

Declining International Student Enrollment at U.S. Universities

government's Student and Exchange Visitor Information System (SEVIS) database.¹ This is the first hard count available of international students enrolled in U.S. postsecondary institutions in the Fall 2017, and thus our first confirmation of an overall decline in new international students. Given that these numbers represent enrollment and not just new students, the decline in new international students is likely greater than 4 percent. The data were part of a larger report and has so far received little attention. Since data from 2012 through 2017 are snapshots taken from SEVIS at the same time each year, they represent a good way to analyze increases or decreases in international student enrollment.²

It will be important to watch trends over a period of years to know whether the decline is temporary or part of a larger reversal. U.S. policy and international student perceptions may have played a role in the recent decline. Potential new restrictions on the ability of international students to work after graduation could accelerate the trend. As discussed below, of particular concern may be the decline in graduate student enrollment in science and engineering fields.

Table 2
International Student Enrollment at U.S. Universities: 2012 to 2017

Level (All Fields)	2012	2013	2014	2015	2016	2017
All Levels	633,070	673,480	747,400	776,720	840,160	808,640
Undergraduate	349,400	371,990	405,930	416,350	450,850	440,720
Graduate	283,680	301,490	341,470	360,380	389,310	367,920

Source: U.S. Department of Homeland Security, U.S. Immigration and Customs Enforcement, special tabulations (2017), Student and Exchange Visitor Information System (SEVIS) database; National Science Board, *Science and Engineering Indicators 2018*.

DECLINE IN ENROLLMENT OF SCIENCE AND ENGINEERING GRADUATE STUDENTS

About half of the overall decline in 2017 came from lower enrollment of international graduate students in science and engineering fields. Between 2016 and 2017, the number of international students enrolled at the graduate level in science and engineering fell by 14,730, or 6 percent (from 244,040 in 2016 to 229,310 in 2017). Table 5 shows that the drop in the number of international graduate students in science and engineering follows an increase every year from 2012 through 2016. In fact, the enrollment of international students at the graduate level in science and engineering at U.S. universities increased by over 50 percent between 2012 and 2016.

¹ National Science Board, *Science and Engineering Indicators 2018*, NSB-2018-1, Alexandria, VA: National Science Foundation, 2018. The National Science Board serves as the board of directors of the National Science Foundation.

² National Science Board/SEVIS numbers will differ slightly from estimates of Fall enrollment that are expected to be reported by other sources later this year since they are based upon November rather than beginning-Fall enrollment.

FEWER INDIANS IN GRADUATE LEVEL COMPUTER SCIENCE AND ENGINEERING

Analyzing the data more closely one can see approximately half of the decline in enrollment can be attributed to fewer individuals from India studying computer science and engineering at the graduate level in 2017. The number of international students from India enrolled in graduate level programs in computer science and engineering declined by 21 percent, or 18,590 fewer graduate students, from 2016 to 2017. Interestingly, at the undergraduate level, 740 *more* students from India studied computer science and engineering at the undergraduate level. Since the short-term currency crisis in India would have affected both graduate and undergraduate students it is unclear whether that was a factor at the graduate level.

Table 3

Indian Student Graduate Enrollment at U.S. Universities in Computer Science & Engineering, 2016 to 2017

Student and Level	2016	2017	Decline From 2016 to 2017
Indians Enrolled in Computer Science and Engineering at U.S. Universities (Graduate Level)	86,900	68,310	-21% (18,590)

Source: National Foundation for American Policy; U.S. Department of Homeland Security, U.S. Immigration and Customs Enforcement, special tabulations (2017), Student and Exchange Visitor Information System (SEVIS) database; National Science Board, *Science and Engineering Indicators 2018*.

Another major source of decline was from Saudi Arabia, which had 1,930 fewer students enrolled in graduate level programs in 2017 compared to 2016, and 6,220 fewer at the undergraduate level. Some educators have speculated that reductions in scholarships in Saudi Arabia may have been a factor in lower enrollment at U.S. universities.¹ Other major declines in enrollment at the undergraduate level were South Korea (3,450 fewer students enrolled in 2017), Japan (1,330 fewer), Turkey (1,260 fewer), Brazil (950 fewer) and Indonesia (510 fewer). The United States suspended visa processing with Turkey in October 2017 but it's unclear if that affected these numbers or whether other factors, such as U.S. policies or the political situation inside Turkey, contributed to the decline.

Despite various versions of the travel ban in 2017, there was only a small difference in the enrollment of students from Iran at the graduate level from 2016 to 2017 (a decline of 120 student). However, data were unavailable for Iranian student enrollment at the undergraduate level, which means the overall impact of the travel bans on Iranian students is unclear. Even though Iranians remain eligible for student visas under the latest version of the travel ban, their numbers bear watching in the years ahead.

*Declining International Student Enrollment at U.S. Universities***Table 4****Science & Engineering Field: International Student Graduate Enrollment at U.S. Universities, 2016 to 2017**

Student and Level	2016	2017	Decline From 2016 to 2017
International Students Enrolled at U.S. Universities (Graduate Level)	244,040	229,310	-6% (14,730)

Source: National Foundation for American Policy; U.S. Department of Homeland Security, U.S. Immigration and Customs Enforcement, special tabulations (2017), Student and Exchange Visitor Information System (SEVIS) database; National Science Board, *Science and Engineering Indicators 2018*.

Table 5**Science & Engineering Fields: International Student Enrollment at U.S. Universities, 2012 to 2017**

Science & Engineering	2012	2013	2014	2015	2016	2017
All Levels	278,180	305,610	355,910	384,540	420,610	406,240
Undergraduate	115,800	130,050	147,790	157,820	176,570	176,930
Graduate	162,390	175,570	208,110	226,720	244,040	229,310

Source: U.S. Department of Homeland Security, U.S. Immigration and Customs Enforcement, special tabulations (2017), Student and Exchange Visitor Information System (SEVIS) database; National Science Board, *Science and Engineering Indicators 2018*.

IMPACT ON U.S. STUDENTS AND UNIVERSITIES

"At many U.S. universities, both majors and graduate programs could not be maintained without international students," concluded an October 2017 NFAP Policy Brief.³ In key tech fields, an enormous number of universities have a majority of international students. In electrical engineering, 93 percent of the U.S. graduate school programs have a majority of full-time graduate students (master's and Ph.D.'s). In computer science, 88 percent of the U.S. graduate school programs have a majority of full-time graduate students are international students.⁴

Academic research has found a connection between international students and U.S. student enrollment. "At the graduate level, international students do not crowd-out, but actually increase domestic enrollment," according to

³ *The Importance of International Students to American Science and Engineering*, NFAP Policy Brief, National Foundation for American Policy, October 2017.

⁴ Ibid. Includes only schools with at least 30 students.

Declining International Student Enrollment at U.S. Universities

[research](#) by economist Kevin Shih. "Foreign student tuition revenue is used to subsidize the cost of enrolling additional domestic students."⁵

Lower enrollment of international students has already resulted in budget cuts that affect U.S. students at a number of universities. "Just as many universities believed that the financial wreckage left by the 2008 recession was behind them, campuses across the country have been forced to make new rounds of cuts, this time brought on, in large part, by a loss of international students," reported the [New York Times](#) in January.⁶ At universities such as Wright State in Ohio a drop in international students has contributed to eliminating programs for Italian, Russian and Japanese.⁷

IMPACT ON AMERICAN COMPANIES AND THE U.S. ECONOMY

When companies recruit on U.S. campuses they find an overwhelming proportion of the talent pool includes international students who would need an additional status or visa (ultimately H-1B) to work long-term in the United States. In 2015, 81 percent of the full-time graduate students enrolled at U.S. universities in electrical engineering and 79 percent in computer science were international students.⁸ While more recent data on these proportions are not yet available, the percentages show how vital such students are to the tech sector and university programs. Professors rely on international students to conduct research and many of the best instructors would likely leave for private sector jobs without the ability to perform high-level research.⁹

Lorrie Meyer, executive director of Global Talent Management at Cummins, Inc., a manufacturing company based in Columbus, Indiana, has stated the company recruits aggressively from Purdue and Indiana University, hiring both U.S. students and international students. To work in the United States, international students recruited by companies would require STEM OPT and H-1B status.¹⁰ Meyer said in an NFAP press call that without access to foreign-born talent it would be difficult for manufacturing companies such as Cummins to grow and innovate in the United States.¹¹

We can also expect other negative impacts. "Entering the United States as an international student has shown to be a good avenue for starting successful U.S. companies," concluded a 2016 National Foundation for American

⁵ Kevin Shih, "Do International Students Crowd-Out or Cross-Subsidize Americans in Higher Education?," September 25, 2017.

⁶ Stephanie Saul, "As Flow of Foreign Students Wanes, U.S. Universities Feel the Sting," *New York Times*, January 2, 2018.

⁷ Ibid.

⁸ Figures for 2015. National Science Foundation, Survey of Graduate Students and Postdoctorates, NFAP calculations. U.S. students include lawful permanent residents. Graduate students are in master's and Ph.D. programs.

⁹ *The Importance of International Students to American Science and Engineering*, NFAP Policy Brief.

¹⁰ Stuart Anderson, "Are International Students Next On the Menu?" *Forbes*, October 15, 2017.

¹¹ Ibid.

Declining International Student Enrollment at U.S. Universities

Policy report. “Nearly one-quarter (20) of the 87 billion dollar U.S. startup companies – and almost half of the companies with an immigrant founder – had a founder who first came to America as an international student.”¹²

WILL STEM OPT BE CURTAILED OR ELIMINATED?

The Trump administration has indicated it may limit or eliminate Optional Practical Training (OPT) or STEM OPT (science, technology, engineering and math OPT) for international students in the United States. This would affect whether international students decide to enroll at a U.S. university.

Optional Practical Training, or OPT, allows international students in F-1 status to continue their education or training by working in the United States after graduation.¹³ Canada and Australia, to cited two examples, have generous policies on post-graduation work for foreign students.¹⁴

For many years, Optional Practical Training provided international students with 12 months of work authorization and the freedom to work for a U.S. employer. In April 2008, in part to address the problem of losing outstanding students unable to obtain H-1B status, the George W. Bush Administration published an interim final rule that allowed F-1 international students with (qualifying) STEM degrees to receive an additional 17 months of OPT, for a total of 29 months in OPT status.

On March 11, 2016, following a period of notice and comment, the Department of Homeland Security issued a final rule on STEM OPT.¹⁵ The new rule came after a lawsuit filed by the Washington Alliance of Technology Workers (WashTech).¹⁶ The rule stated that F-1 students could receive a 24-month extension beyond the initial 12 months if their degree is in a qualifying STEM field and if other conditions were met.¹⁷

The Trump administration has indicated it will pass a new rule that either eliminates or sharply curtails the ability of international students to work on Optional Practical Training or STEM OPT. In the administration’s [regulatory agenda](#), it listed as an upcoming “significant” regulatory agency by Immigration and Customs and Enforcement (ICE), which has jurisdiction, the following: “*Practical Training Reform*. ICE will issue a proposed rule that improves protections of U.S. workers who may be negatively impacted by employment of nonimmigrant students on F and M

¹² Stuart Anderson, *Immigrants and Billion Dollar Startups*, NFAP Policy Brief, National Foundation for American Policy, March 2016.

¹³ This section adapted from Stuart Anderson, *International Students and STEM OPT*, NFAP Policy Brief, National Foundation for American Policy, October 2017.

¹⁴ *State of Immigration*, Business Roundtable, March 2015.

¹⁵ 8 CFR Parts 214 and 274a, “Improving and Expanding Training Opportunities for F-1 Nonimmigrant Students with STEM Degrees and Cap-Gap Relief for All Eligible F-1 Students,” Department of Homeland Security, Final Rule, March 11, 2016.

¹⁶ Washington Alliance of Technology Workers v. U.S. Department of Homeland Security.

¹⁷ 8 CFR Parts 214 and 274a, “Improving and Expanding Training Opportunities for F-1 Nonimmigrant Students with STEM Degrees and Cap-Gap Relief for All Eligible F-1 Students,” p. 13041.

Declining International Student Enrollment at U.S. Universities

visas. The rule will be a comprehensive reform of practical training options; it is intended to reduce fraud and abuse.”¹⁸

The impact of the rule could be significant. “Universities would be devastated if STEM OPT were eliminated, leaving only one chance at the H-1B lottery,” said Rodney Malpert, a partner at the Fragomen law firm. “We’ve never had that combination of a low-probability H-1B lottery combined with a twelve month maximum for OPT.”¹⁹

“Eliminating STEM OPT would have a chilling effect on international students, causing many to rethink applying to U.S. universities,” said Jackie Bangs, assistant director, Division of International Programs, Oregon State University. “The freedom to explore career opportunities is crucial. It would be disastrous if STEM OPT or OPT itself were eliminated.” Bangs says foreign students already believe the climate in the U.S. has turned hostile.²⁰

Dr. Grace Atebe, the director of the Office of International Services at Oregon State University, said international students prize learning through university partnerships with businesses and both the students and the universities view Optional Practical Training as “an extension of the educational experience for students beyond the classroom (i.e., “practical training”).” She says limiting or eliminating practical work experience would make going to school in the U.S. “less rewarding” for international students than in Canada, Europe or other places.²¹

CONCLUSION

Both the impact of the decline in enrollment of international students and the reasons behind the drop are important. As noted, NFAP’s analysis of the data show a major factor in the decline was fewer Indians studying computer science and engineering at the graduate level at U.S. universities. News reports and other information about the United States limiting the ability of international students to gain employment after completing their studies could be discouraging enrollment.

An extensive report by [*Inside Higher Ed*](#) indicates that the Trump administration’s travel bans (three different versions) against primarily Muslim countries in 2017 had an impact on fewer international students enrolling at U.S. universities.²² The overall impact of the travel bans is unknown but could include a belief among both Muslims and non-Muslim young people that America is a less welcoming place to study.²³

¹⁸ https://www.reginfo.gov/public/jsp/eAgenda/StaticContent/201710/Statement_1600.html.

¹⁹ Email interview, Rodney Malpert, August 23, 2017.

²⁰ Interview with Jackie Bangs, August 24, 2017.

²¹ Stuart Anderson, “Are International Students Next On the Menu?”

²² Elizabeth Redden, “A Year Later the Trump Administration’s Travel Restrictions – Opposed by Many in Higher Ed – Are Having an Impact,” *Inside Higher Ed*, February 1, 2018.

²³ *Ibid*.

Declining International Student Enrollment at U.S. Universities

Lower enrollment can be caused by fewer international students choosing to study in the United States or by students being denied a visa to the United States (or some combination of the two). “Although the United States has historically been a world leader in providing broad access to higher education and in attracting international students, many other countries are providing expanded educational access to their own populations and are attracting growing numbers of international students,” reports the National Science Board.²⁴

The key to remember is that international students have more choices than ever before about where to study and U.S. policies on immigration and international students have an impact on those choices. To the extent the United States makes it more difficult to work after graduation or imposes other restrictive policies it is less likely that international students choose America as their destination. Fewer international students coming to the United States will have a serious impact on U.S. students and U.S. universities, as well as American companies and our country’s role as a center of science and innovation.

²⁴ National Science Board, *Science and Engineering Indicators 2018*.

ABOUT THE NATIONAL FOUNDATION FOR AMERICAN POLICY

Established in 2003, the National Foundation for American Policy (NFAP) is a 501(c)(3) non-profit, non-partisan public policy research organization based in Arlington, Virginia, focusing on trade, immigration and related issues. Advisory Board members include Columbia University economist Jagdish Bhagwati, Cornell Law School professor Stephen W. Yale-Loehr, Ohio University economist Richard Vedder and former INS Commissioner James Ziglar. Over the past 24 months, NFAP's research has been written about in the *Wall Street Journal*, the *New York Times*, the *Washington Post*, and other major media outlets. The organization's reports can be found at www.nfap.com. Twitter: [@NFAPResearch](https://twitter.com/NFAPResearch)

2111 Wilson Blvd., Suite 700, Arlington, VA 22201
Tel (703) 351- 5042 | Fax (703) 351-9292 | www.nfap.com