

# Legislative Report Senior Year Plus - STEM



January 2021

State of Iowa  
Department of Education  
Grimes State Office Building  
400 E. 14<sup>th</sup> Street  
Des Moines, IA 50319-0146

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## LEGISLATIVE REQUIREMENT - IOWA CODE 261E.3 J

All eligible postsecondary institutions providing programming under this chapter shall include the unique student identifier assigned to students while in the kindergarten through grade twelve system as a part of the institution's student data management system. Eligible postsecondary institutions providing programming under this chapter shall cooperate with the department on data requests related to the programming. All eligible postsecondary institutions providing programming under this chapter shall collect data and report to the department on the proportion of females and minorities enrolled in science, technology, engineering, and mathematics-oriented educational opportunities provided in accordance with this chapter. The department shall submit the programming data and the department's findings and recommendations in a report to the general assembly annually by January 15.

## ADVANCED PLACEMENT ENROLLMENT IN STEM

### ADVANCED PLACEMENT COURSE ENROLLMENT BY RACE/ETHNICITY

Race/ Ethnicity	2017-18				2018-19				2019-20			
	Number of Courses	Percent	Number of STEM	Percent	Number of Courses	Percent	Number of STEM	Percent	Number of Courses	Percent	Number of STEM	Percent
Asian	1,108	6.3%	441	8.5%	1,160	6.5%	486	8.5%	1,191	6.6%	495	8.4%
Black	754	4.3%	155	3.0%	891	5.0%	174	3.1%	919	5.1%	182	3.1%
Hispanic	1,392	7.9%	312	6.0%	1,574	8.8%	376	6.6%	1,489	8.3%	342	5.8%
Multi-racial	660	3.8%	162	3.1%	702	3.9%	190	3.3%	732	4.1%	212	3.6%
Native American	31	0.2%	8	0.2%	27	0.2%	5	0.1%	37	0.2%	6	0.1%
Pacific Islander	22	0.1%	4	0.1%	17	0.1%	7	0.1%	23	0.1%	8	0.1%
White	13,555	77.4%	4,100	79.1%	13,549	75.6%	4,451	78.2%	13,522	75.5%	4,653	78.9%
Total	17,522	100%	5,182	100%	17,920	100%	5,689	100%	17,913	100%	5,898	100%

Source: Iowa Department of Education, Student Reporting in Iowa collection

\* May not equal 100% due to rounding

### ADVANCED PLACEMENT COURSE ENROLLMENT BY GENDER

Gender	2017-18				2018-19				2019-20			
	Number of Courses	Percent*	Number of STEM	Percent	Number of Courses	Percent*	Number of STEM	Percent	Number of Courses	Percent*	Number of STEM	Percent
Female	9,595	54.8%	2,419	46.7%	9,906	55.3%	2,651	46.6%	9,913	55.3%	2,825	47.9%
Male	7,927	45.2%	2,763	53.3%	8,014	44.7%	3,038	53.4%	8,000	44.7%	3,073	52.1%
Total	17,522	100%	5,182	100%	17,920	100%	5,689	100%	17,913	100%	5,898	100%

Source: Iowa Department of Education, Student Reporting in Iowa collection

\* May not equal 100% due to rounding

## CONCURRENT ENROLLMENT IN STEM

### CONCURRENT ENROLLMENT BY RACE/ETHNICITY

Race/ Ethnicity	2017-18			2018-19			2019-20					
	Number of Courses	Percent*	Number of STEM	Percent	Number of Courses	Percent*	Number of STEM	Percent	Number of Courses	Percent	Number of STEM	Percent
Asian	1,488	3.1%	624	3.8%	1,442	3.0%	658	4.3%	1,289	2.9%	513	3.8%
Black	1,539	3.2%	604	3.7%	1,501	3.2%	584	3.8%	1,216	2.7%	449	3.3%
Hispanic	3,868	8.1%	1,488	9.1%	4,090	8.6%	1,432	9.4%	3,654	8.2%	1,345	9.8%
Multi-racial	1,254	2.6%	476	2.9%	1,293	2.7%	473	3.1%	1,202	2.7%	433	3.2%
Native American	119	0.3%	42	0.3%	120	0.3%	44	0.3%	125	0.3%	44	0.3%
Pacific Islander	64	0.1%	27	0.2%	75	0.2%	21	0.1%	66	0.1%	19	0.1%
White	39,231	82.5%	13,044	80.0%	39,123	82.1%	11,978	78.9%	37,080	83.1%	10,862	79.5%
Total	47,563	100%	16,305	100%	47,644	100%	15,190	100%	44,632	100%	13,665	100%

Source: Iowa Department of Education, Student Reporting in Iowa collection

\* May not equal 100% due to rounding

### CONCURRENT ENROLLMENT BY GENDER

Gender	2017-18				2018-19				2019-20			
	Number of Courses	Percent*	Number of STEM	Percent	Number of Courses	Percent*	Number of STEM	Percent	Number of Courses	Percent*	Number of STEM	Percent
Female	24,016	50.4%	7,426	45.5%	24,371	51.2%	6,913	45.5%	23,074	51.7%	6,441	47.1%
Male	23,637	49.6%	8,879	54.5%	23,273	48.8%	8,277	54.5%	21,558	48.3%	7,224	52.9%
Total	47,653	100%	16,305	100%	47,644	100.0%	15,190	100%	44,632	100%	13,665	100%

Source: Iowa Department of Education, Student Reporting in Iowa collection

\* May not equal 100% due to rounding

## POSTSECONDARY ENROLLMENT OPTIONS IN STEM

### POSTSECONDARY ENROLLMENT OPTIONS BY RACE/ETHNICITY

Race/ Ethnicity	2017-18				2018-19				2019-20			
	Number of Courses	Percent	Number of STEM	Percent	Number of Courses	Percent	Number of STEM	Percent	Number of Courses	Percent	Number of STEM	Percent
Asian	86	6.1%	50	10.0%	72	7.1%	43	11.7%	65	11.0%	45	18.5%
Black	14	1.0%	8	1.6%	8	0.8%	1	0.3%	11	1.9%	3	1.2%
Hispanic	68	4.8%	29	5.8%	47	4.6%	18	4.9%	34	5.8%	12	4.9%
Multi-racial	29	2.1%	12	2.4%	32	3.2%	10	2.7%	19	3.2%	9	3.7%
Native American	-	0.0%	-	0.0%	-	0.0%	-	0.0%	2	0.3%	-	0.0%
Pacific Islander	1	0.1%	-	0.0%	-	0.0%	-	0.0%	1	0.2%	1	0.4%
White	1,214	86.0%	400	80.2%	855	84.3%	294	80.3%	459	77.7%	173	71.2%
Total	1,412	100%	499	100%	1,014	100.0%	366	100%	591	100%	243	100%

Source: Iowa Department of Education, Student Reporting in Iowa collection

May not equal 100% due to rounding



## POSTSECONDARY ENROLLMENT OPTIONS BY GENDER

Gender	2017-18				2018-19				2019-20			
	Number of Courses	Percent*	Number of STEM	Percent	Number of Courses	Percent*	Number of STEM	Percent	Number of Courses	Percent*	Number of STEM	Percent
Female	850	13.1%	260	52.1%	595	58.7%	155	42.3%	322	54.5%	104	42.8%
Male	562	86.9%	239	47.9%	419	41.3%	211	57.7%	269	45.5%	139	57.2%
Total	1,412	100%	499	100%	1,014	100%	366	100%	591	100%	243	100%

Source: Iowa Department of Education, Student Reporting in Iowa collection

\* May not equal 100% due to rounding

## IOWA STUDENT DEMOGRAPHIC INFORMATION

### 2019-20 K-12 ENROLLMENT BY GENDER

Gender	Student Count	Percent
Female	235,670	48.5%
Male	250,183	51.5%
Total	485,853	100%

### 2019-20 K-12 ENROLLMENT BY RACE/ETHNICITY

Race/Ethnicity	Student Count	Percent
African American/Black	31,753	6.5%
American Indian	1,787	0.4%
Asian	12,536	2.6%
Hawaiian/Pacific Islander	1,590	0.3%
Hispanic	55,912	11.5%
Multi-racial	21,048	4.3%
White	361,227	74.3%
Total	485,853	100%

## FINDINGS AND RECOMMENDATIONS

This report provides information about enrollment patterns of students by race/ethnicity and gender in Senior Year Plus opportunities. Data contained in this report shows a decrease in the overall enrollment trend across all of the Senior Year Plus areas. The three-year trend, between 2017-18 and 2019-20, saw a decline in enrollment in Advanced Placement (AP), Concurrent Enrollment and Postsecondary Enrollment Options (PSEO). Most notably, there has been a significant decrease in PSEO enrollment over this period of time. This trend is not surprising due to the changes to PSEO programming that has impacted utilization of this opportunity by students.

This report also provides information about the pattern of student enrollment by race/ethnicity and gender in STEM Senior Year Plus courses. Of the three areas, only AP saw an overall increase in STEM opportunities. Both Concurrent Enrollment and PSEO both saw an overall decrease in STEM courses taken in 2019-20 from the prior year.

A positive trend can be found when examining the gender difference of STEM Senior Year Plus course enrollments. The Senior Year Plus program are Concurrent Enrollment courses. This is due to the supplementary weighting incentive which was put in place to support college level course enrollment opportunities for Iowa students. While this incentive exists for Concurrent Enrollment, the additional weighted funding is not available for AP or PSEO courses. This lack of an incentive has an impact on overall enrollment in these course areas.

In 2019-20, there were 44,632 Concurrent Enrollment courses taken by Iowa students. This compares to 17,913 enrollments in AP courses and 519 enrollments in PSEO courses. Over the period covered in this report, Concurrent Enrollment has seen the proportion of minor students enrolled in this program and STEM Concurrent Enrollment has remained the same. In 2017-18 there were 17 percent of students enrolled in Concurrent Enrollment courses and 17 percent in 2019-20. In 2017-18 there were 20 percent of minority students in STEM Concurrent Enrollment and 20 percent in 2019-20.

The support for STEM in Iowa starts at the highest levels of the executive branch. Governor Reynolds has been a champion for STEM in Iowa since the inception of the STEM Council in 2011. A goal of the statewide STEM Council is to enhance Iowa's PK-12 talent pipeline which will result in increased interest in STEM careers.

In the fiscal year 2021 budget, \$4,722,222 was allocated to support STEM program funding statewide. The below table provides an overview of these funding area.

Program	Funding
Regional STEM Scale-Up Programming - award allocations STEM Region with six regions	\$3,224,250
STEM Teacher Externships Program	\$260,000
School-Business Partnerships Support – STEM BEST Program at \$25,000 per award	\$521,375
Computer Science is Elementary Round II	\$146,472
Statewide IT Certification Program	\$500,000
Statewide Teacher Professional Development in STEM – Equity, Digital Literacy, Computation	\$70,125
Total	\$4,722,222