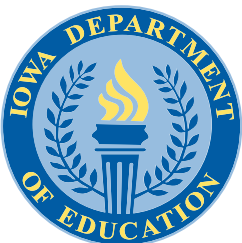


Legislative Report Senior Year Plus STEM

January 15, 2024



LEGISLATIVE REQUIREMENT - IOWA CODE 261E.3(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.

The Department utilizes the School Courses for the Exchange of Data (SCED) taxonomy for coding high school courses. Any course that is coded in the math, sciences, information technology/computer sciences, engineering and technology or health care sciences is considered STEM.

ADVANCED PLACEMENT ENROLLMENT IN STEM COURSES

Table 1: Advanced Placement Course Enrollments by Race/Ethnicity

Race/ Ethnicity	2020-21				2021-22				2022-23			
	Number of Courses	Percent*	Number of STEM Courses	Percent STEM*	Number of Courses	Percent*	Number of STEM Courses	Percent STEM*	Number of Courses	Percent	Number of STEM Courses	Percent STEM*
Asian	1,130	6.7%	493	8.5%	1,048	6.8%	480	9.1%	1,075	6.9%	489	9.0%
Black	828	4.9%	198	3.4%	715	4.6%	166	3.2%	837	5.4%	199	3.7%
Hispanic	1,404	8.3%	348	6.0%	1,269	8.2%	314	6.0%	1,362	8.8%	369	6.8%
Two or More Races	693	4.1%	191	3.3%	668	4.3%	186	3.5%	672	4.3%	213	3.9%
American Indian	31	0.2%	8	0.1%	23	0.1%	7	0.1%	26	0.2%	15	0.3%
Pacific Islander	19	0.1%	9	0.2%	13	0.1%	2	0.0%	17	0.1%	3	0.1%
White	12,835	75.8%	4,540	78.5%	11,646	75.7%	4,091	78.0%	11,497	74.2%	4,152	76.3%
Total	16,940	100.1%	5,787	100.0%	15,382	99.8%	5,246	99.9%	15,486	99.9%	5,440	100.1%

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

* May not equal 100% due to rounding

Table 2: Advanced Placement Course Enrollments by Gender

Race/ Ethnicity	2020-21				2021-22				2022-23			
	Number of Courses	Percent*	Number of STEM Courses	Percent STEM*	Number of Courses	Percent*	Number of STEM Courses	Percent STEM*	Number of Courses	Percent	Number of STEM Courses	Percent STEM*
Female	9,485	56.0%	2,826	48.8%	8,506	55.3%	2,538	48.4%	8,479	54.8%	2,586	47.5%
Male	7,455	44.0%	2,961	51.2%	6,859	44.6%	2,705	51.6%	6,992	45.2%	2,853	52.4%
Non-Binary	--	--	--	--	17	0.1%	3	0.1%	15	0.1%	1	0.0%
Total	16,940	100.0%	5,787	100.0%	15,382	100.0%	5,246	100.0%	15,486	100.0%	5,440	100.0%

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

* May not equal 100% due to rounding

CONCURRENT ENROLLMENT IN STEM COURSES

Table 3: Concurrent Course Enrollments by Race/Ethnicity

Race/ Ethnicity	2020-21				2021-22				2022-23			
	Number of Courses	Percent*	Number of STEM Courses	Percent STEM*	Number of Courses	Percent*	Number of STEM Courses	Percent STEM*	Number of Courses	Percent	Number of STEM Courses	Percent STEM*
Asian	1,114	2.7%	424	3.7%	1,169	2.7%	431	3.7%	1,177	2.7%	423	3.8%
Black	1,044	2.5%	336	2.9%	1,159	2.7%	379	3.2%	1,166	2.6%	335	3.0%
Hispanic	3,119	7.6%	986	8.6%	3,443	8.0%	1,051	9.0%	3,686	8.3%	972	8.8%
Two or More Races	1,102	2.7%	315	2.8%	1,291	3.0%	378	3.2%	1,372	3.1%	354	3.2%
American Indian	86	0.2%	30	0.3%	93	0.2%	30	0.3%	76	0.2%	24	0.2%
Pacific Islander	48	0.1%	14	0.1%	66	0.2%	25	0.2%	70	0.2%	23	0.2%
White	34,640	84.2%	9,341	81.6%	35,961	83.3%	9,418	80.4%	36,803	83.0%	8,948	80.8%
Total	41,153	100.0%	11,446	100.0%	43,182	100.1%	11,712	100.0%	44,350	100.1%	11,079	100.0%

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

* May not equal 100% due to rounding

Table 4: Concurrent Course Enrollments by Gender

Race/ Ethnicity	2020-21				2021-22				2022-23			
	Number of Courses	Percent*	Number of STEM Courses	Percent STEM*	Number of Courses	Percent*	Number of STEM Courses	Percent STEM*	Number of Courses	Percent	Number of STEM Courses	Percent STEM*
Female	21,646	52.6%	5,563	48.6%	22,804	52.8%	5,608	47.9%	23,507	53.0%	5,529	49.9%
Male	19,507	47.4%	5,883	51.4%	20,368	47.2%	6,101	52.1%	20,821	46.9%	5,548	50.1%
Non-Binary	--	--	--	--	10	0.0%	3	0.0%	22	0.0%	2	0.0%
Total	41,153	100.0%	11,446	100.0%	43,182	100.0%	11,712	100.0%	44,350	100.0%	11,079	100.0%

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

* May not equal 100% due to rounding

POSTSECONDARY ENROLLMENT OPTIONS IN STEM COURSES

Table 5: Postsecondary Enrollment Options by Race/Ethnicity

Race/ Ethnicity	2020-21				2021-22				2022-23			
	Number of Courses	Percent*	Number of STEM Courses	Percent STEM*	Number of Courses	Percent*	Number of STEM Courses	Percent STEM*	Number of Courses	Percent	Number of STEM Courses	Percent STEM*
Asian	74	15.0%	50	28.2%	68	13.5%	40	24.2%	53	13.0%	36	23.4%
Black	8	1.6%	1	0.6%	9	1.8%	3	1.8%	6	1.5%	2	1.3%
Hispanic	18	3.7%	4	2.3%	27	5.4%	5	3.0%	34	8.4%	10	6.5%
Two or More Races	25	5.1%	11	6.2%	17	3.4%	4	2.4%	18	4.4%	7	4.5%
American Indian	1	0.2%	-	0.0%	2	0.4%	-	0.0%	-	0.0%	-	0.0%
Pacific Islander	-	0.0%	-	0.0%	-	0.0%	-	0.0%	1	0.2%	1	0.6%
White	367	74.4%	111	62.7%	380	75.5%	113	68.5%	295	72.5%	98	63.6%
Total	493	100.0%	177	100.0%	503	100.0%	165	99.9%	407	100.0%	154	99.9%

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

* May not equal 100% due to rounding

Table 6: Postsecondary Enrollment Options by Gender

Race/ Ethnicity	2020-21				2021-22				2022-23			
	Number of Courses	Percent*	Number of STEM Courses	Percent STEM*	Number of Courses	Percent*	Number of STEM Courses	Percent STEM*	Number of Courses	Percent	Number of STEM Courses	Percent STEM*
Female	274	55.6%	58	32.8%	251	49.9%	57	34.5%	227	55.8%	58	37.7%
Male	219	44.4%	119	67.2%	248	49.3%	108	65.5%	178	43.7%	95	61.7%
Non-Binary	--	--	--	--	4	0.8%	-	0.0%	2	0.5%	1	0.6%
Total	493	100%	177	100%	503	100.0%	165	100.0%	407	100.0%	154	100.0%

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

* May not equal 100% due to rounding

IOWA STUDENT DEMOGRAPHIC INFORMATION

Table 7: 2022-23 K-12 Enrollment by Race/Ethnicity

Race/Ethnicity	Student Count	Percent*
Black or African American	32,578	6.8%
American Indian or Alaska Native	1,569	0.3%
Asian	12,004	2.5%
Native Hawaiian or Other Pacific Islander	2,789	0.6%
Hispanic/Latino	60,548	12.6%
Two or More Races	23,479	4.9%
White	348,746	72.4%
Total	481,713	100.1%

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

* May not equal 100% due to rounding

Table 8: 2022-23 K-12 Enrollment by Gender

Race/Ethnicity	Student Count	Percent
Female	233,746	48.5%
Male	247,709	51.4%
Non-Binary	258	0.1%
Total	481,713	100%

FINDINGS

This report provides information about enrollment patterns of students by race/ethnicity and gender across the multiple pathways under the Senior Year Plus program. This report also includes information about the percent of students of color and gender enrollments in Senior Year Plus (SYP) courses as well as STEM Senior Year Plus courses. SYP pathways include Advanced Placement (AP), Concurrent Enrollment and Postsecondary Enrollment Options (PSEO).

The most commonly used pathway in the SYP program are concurrent enrollment courses. This is primarily due to the supplementary weighting incentive and partnership that exists between school districts and community colleges. The supplementary weighting incentive was created to support college level course opportunities for Iowa students and pay for the additional cost associated with these courses. While this incentive exists for Concurrent Enrollment, the additional weighted funding is not available for either AP or PSEO courses. This lack of incentive likely has an impact on availability and overall enrollment in these other course areas.

This pattern is notable across the three-year period between 2020-21 and the 2022-23 school years. During this timeframe, there are sizable declines in AP course enrollments between 2020-21 (n = 16,940) and 2022-23 (n = 15,486). This same pattern also exists for PSEO course enrollments between 2020-21 (n = 492) and 2022-23 (n = 407). On the other hand, during this three-year period, Concurrent Enrollment saw large increases in overall enrollment. In the 2020-21 school year, there were 41,153 course enrollments compared to 44,350 in the 2022-23 school year.

There were declines across all three course types in STEM enrollment in the 2022-23 school year. In the 2020-21 school year, there were 5,787 enrollments in AP STEM courses but in 2022-23 enrollments declined to 5,440. PSEO STEM course enrollments dropped from 177 in 2020-21 to 154 in 2022-23. Following this same pattern, overall enrollment in STEM Concurrent courses saw a decline while the overall total enrollment increased. In 2020-21, there were 11,446 STEM Concurrent enrollments compared to 11,079 in the 2022-23 school year.

A notable finding can be found when examining gender enrollments in STEM Concurrent enrollment courses. In the 2022-23 school year, approximately half (49.9%) of the STEM Concurrent enrollment course were female. Over this three-year period, there was an increase in the percent of female students taking STEM Concurrent courses between 2020-21 (48.6%) and 2022-23 (49.9%). This same trend did not cross over into the other program areas of SYP STEM. The percent of female students enrolled in AP STEM decreased, while increasing in PSEO STEM over this three-year period. The percent of female students enrolled in STEM AP courses was 48.8% in the 2020-21 school year and decreased to 47.5% in 2022-23. PSEO STEM enrollments increased from 32.8% in 2020-21 to 37.7% in the 2022-23 school year in the percent of female students.

Another noteworthy finding is the increase in the percent of students of color enrolled in all SYP programs over this three-year period. In the 2022-23 school year, 19.2% of enrollments were students of color compared to 18.4% in the 2020-21 school year. The percent of students of color enrolled in AP STEM courses was 21.5% in 2020-21 and 23.7% in 2022-23. This same trend continued in PSEO STEM enrollment which had 32.8% students of color in 2020-21 and 36.6% in 2022-23. Overall, there was larger proportion of enrollments in AP STEM (23.7%) and PSEO STEM courses (36.6%) compared to STEM Concurrent enrollment (19.2%) courses. To add context to these enrollment percentages, in the 2022-23 school year, 27.6% of students enrolled in Iowa school districts was a person of color.