JOSH GREEN, M.D.
GOVERNOR

KEITH T. HAYASHI
SUPERINTENDENT

STATE OF HAWAIʻI
DEPARTMENT OF EDUCATION
KA ʻOIHANA HOʻONAʻAUAO
P.O. BOX 2360
HONOLULU, HAWAIʻI 96804

OFFICE OF THE SUPERINTENDENT

December 30, 2024

The Honorable Ronald D. Kouchi, President
and Members of the Senate
415 South Beretania Street
State Capitol, Room 409
Honolulu, Hawaiʻi 96813

The Honorable Nadine K. Nakamura, Speaker
and Members of the House of Representatives
415 South Beretania Street
State Capitol, Room 431
Honolulu, Hawaiʻi 96813

Re: Hawaiʻi State Department of Education Annual Report on Computer Science Education
School Year 2022-2023

Dear President Kouchi, Speaker Nakamura, and Members of the Legislature:

For your information and consideration, a copy of the annual Computer Science Education report for School Year 2022-2023 is being transmitted, pursuant to Act 158, Session Laws of Hawaiʻi 2021. In accordance with Section 93-16, Hawaiʻi Revised Statutes, the report may also be viewed electronically at: *https://www.hawaiipublicschools.org/VisionForSuccess/SchoolDataAndReports/ StateReports/Pages/Legislative-reports.aspx*.

Should you have any questions, please contact Ken Kakesako, Director of the Policy, Innovation, Planning, and Evaluation Branch, Office of Strategy, Innovation, and Performance, via email at *ken.kakesako@k12.hi.us* or by phone at (808) 282-3430.
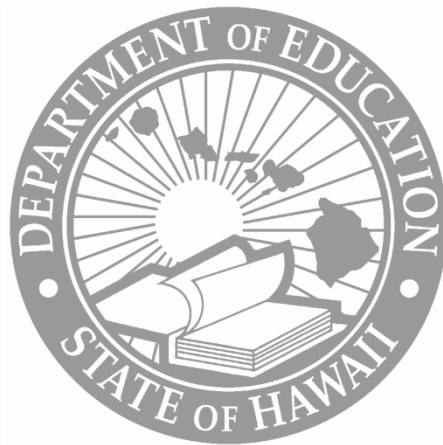
Sincerely,

Keith T. Hayashi
Superintendent

KTH:bt
Attachment

c: Legislative Reference Bureau
Hawaiʻi State Public Library System
University of Hawaiʻi
Hawaiʻi State Board of Education
Office of Curriculum and Instructional Design

AN AFFIRMATIVE ACTION AND EQUAL OPPORTUNITY EMPLOYER

State of Hawaiʻi
Department of Education

Annual Report on Computer Science Education School Year 2022-2023

December 2024

Act 158, Session Laws of Hawaiʻi 2021, requires the Hawaiʻi State Department of Education to annually report on the computer science courses and computer science content offered during the previous school year at the schools in each complex area.

Hawaiʻi State Department of Education
Annual Report on Computer Science Education
School Year 2022-2023

Introduction

The Hawaiʻi State Department of Education's (Department) K-12 Computer Science (CS) Education program is dedicated to equipping students with the knowledge and skills necessary to succeed in an increasingly digital world powered by computing.

The program focuses on fostering critical thinking, problem-solving, and computing literacy skills through comprehensive standards-based courses that are aligned to the five core computer science concepts across all grade levels. Emphasizing inclusivity, diversity, and real-world applications, the program aims to prepare students for future career opportunities and ensure they are well-equipped to navigate and contribute to the technological computing advancements of the future.

Computer Science Education Annual Data Reporting

The purpose of this annual CS report is to document the Department's progress toward the CS education goals specified in Act 158, Session Laws of Hawaiʻi 2021 (Act 158). This is done by documenting the CS courses and content offered at public schools in each complex area during the 2022-2023 school year.

This annual report is based on data from the third quarter (Q3) of the 2022-2023 school year. This data is used because Act 158 reports are due to the Hawaiʻi State Legislature by June 30 of each year and will need approval from stakeholders before publication and distribution. The Q3 data is used because subsequent publications (e.g., reports and dashboards) may rely on data from other points in time, which may show slightly different results. In terms of the data sources used to create this report, all course and student enrollment data were provided by the Department's Data Quality Team. Data about instructors were provided by the Department's Office of Talent Management.

More information about the Department's CS program is available at *https://bit.ly/HIDOECS*.

In addition, the aggregate data for the annual report can be viewed on Hawaiʻi Revised Statutes Section 302A-323 (Act 158, Session Laws of Hawaiʻi 2021) Reporting Data Dashboard at *https://bit.ly/2021Act158CSData*.

Computer Science Courses by Complex Area Schools

Complex Area	Elementary		Middle		High		Combo	
	All Schools	Schools Offering CS	All Schools	Schools Offering CS	All Schools	Schools Offering CS	All Schools	Schools Offering CS
ʻAiea-Moanalua-Radford	16	2	3	3	3	3	-	-
Baldwin-Kekaulike-Kūlanihākoʻi-Maui	13	3	4	4	4	4	-	-
Campbell-Kapolei	12	2	4	4	2	2	-	-
Castle-Kahuku	13	1	1	1	1	1	1	1
Farrington-Kaiser-Kalani	17	9	4	4	3	3	1	1
Hāna-Lahainaluna-Lānaʻi-Molokai	5	0	2	2	2	2	2	1
Hilo-Waiākea	8	1	2	2	2	2	1	1
Honokaʻa-Kealakehe-Kohala-Konawaena	9	0	3	2	3	3	4	3
Kailua-Kalāheo	9	2	1	1	2	2	2	1
Kaimukī-McKinley-Roosevelt	19	6	5	2	3	3	1	1
Kapaʻa-Kauaʻi-Waimea	9	2	3	3	3	3	1	0
Kaʻū-Keaʻau-Pāhoa	5	2	1	1	1	1	2	2
Leilehua-Mililani-Waialua	14	12	3	3	2	2	1	1
Nānākuli-Waiʻanae	6	3	1	1	1	1	1	1
Pearl City-Waipahu	13	13	2	2	2	2	-	-

Computer Science Course Enrollment

Course Code	Enrollment	Course Code	Enrollment
ECS9500 Advanced Placement Computer Science A	148	TIN5520 Cybersecurity	64
ECS9800 Advanced Placement Computer Science Principles	482	TIN5716 Wide Area Networks & Networking Architecture	16
ECS9900 Directed Study - Computer Science	141	TIP2000 Programming 1	128
EMS0010 Computer Science Grade 1	3,837	TIP3000 Programming Mobile Apps Development 2	4
EMS0020 Computer Science Grade 2	3,640	TIP4100 Programming Work-Based Learning	11
EMS0030 Computer Science Grade 3	3,903	TIU5510 A+ Certification 1: Introduction to Computer Systems (A)	37
EMS0040 Computer Science Grade 4	3,946	TIU5511 A+ Certification 2: Introduction to Computer Systems (B)	35
EMS0050 Computer Science Grade 5	3,941	TIU5610 Computer Electronics	5
EMS0060 Computer Science Grade 6	1,874	TIU5713 Networking Fundamentals and Local Area Networks	53
EMS0091 Computer Science Grade K	3,665	TIW2000 Web Design & Development 1	35
EMS0600 Introduction to Computer Literacy	501	TIY2000 Cybersecurity 1	111
EXS0100 Introduction to Computer Science A	3,399	TIY3000 Cybersecurity 2	32
EXS0110 Introduction to Computer Science B	1,652	TIY4100 Cybersecurity Work-Based Learning	19

Course Code	Enrollment	Course Code	Enrollment
EXS1200 Computer Literacy - Computing Tools Information Age	406	TMG0410 Introduction to Technology (Semester)	310
EXS1400 Computer Science A	422	TMG0500 Career & Technical - Computer Literacy (Quarter)	147
EXS1500 Computer Science B	374	TMG0501 Career & Technical - Computer Literacy (Semester)	1,812
EXS1700 Computer Programming - Introduction to Python	38	TMG0502 Career & Technical - Computer Literacy (Year)	28
FVW1000 Computer Art	184	XAT1000 Science, Technology, Engineering, and Mathematics (STEM) Capstone	161
SIC8910 International Baccalaureate Computer Science Modeling Higher Level 2	7	XEP0100 Integrated STEM 6- 8	754
TAN2110 Web Design	9	XEP0101 Integrated STEM A 6-8	1,062
TAN2311 Gaming	36	XEP0102 Integrated STEM B 6-9	101
TAU2210 Digital Media Technology	1,193	XWG0002 Exploratory Wheel Grade 6 (Semester)	438
TAU2211 Digital Media Technology A	6	XWG0011 Exploratory Wheel Grade 7 (Semester)	232
TAU2212 Digital Media Technology B	6	XWG0012 Exploratory Wheel Grade 7 (Quarter)	174

Course Code	Enrollment	Course Code	Enrollment
TIE2000 Networking 1	58	XWG0020 Exploratory Wheel Grade 8 (Year)	421
TIE3000 Networking 2	21	XWG0022 Exploratory Wheel Grade 8 (Quarter)	105
TIF1000 Foundational Computer Systems & Technology	864	ZMR1500 Running Start: Introduction to Computer Science I	16
TIN5512 A+ Certification 3: Operating Systems (C)	18	ZTI1011 Running Start: Digital Tools for the Information World	85
TIN5513 A+ Certification 4: Internships (D)	18	-	-

Gender

School Year	All Students	Enrolled in Computer Science Courses Count (% of All Students)		
		Total	Female Students	Male Students
2022-2023	154,722	38,115 (24.6%)	17,315 (11.2%)	20,800 (13.4%)

Race and Ethnicity

School Year	All Students	Enrolled in Computer Science Courses Count (% of All Students)								
		Total	Asian	Black	Filipino	Hispanic	Native Hawaiian	Pacific Islander	White	Other
2022-2023	154,722	38,115 (24.6%)	6,166 (4.0%)	1,228 (0.8%)	10,174 (6.6%)	672 (0.4%)	7,241 (4.6%)	4,740 (3.1%)	7,328 (4.7%)	566 (0.4%)

Special Education

School Year	All Students	Special Education Students Count (% of All Students)	Enrolled in Computer Science Courses Count (% of All Students)	
			Total	**Special Education Students**
2022-2023	154,722	16,577 (11%)	38,115 (25%)	3,931 (3%)

English Language Learners

School Year	All Students	English Language Learner Students Count (% of All Students)	Enrolled in Computer Science Courses Count (% of All Students)	
			Total	**English Language Learner Students**
2022-2023	154,722	17,095 (11%)	38,115 (25%)	4,744 (3%)

Free and Reduced Lunch

School Year	All Students	All Free & Reduced Lunch Students Count (% of All Students)	Enrolled in Computer Science Courses Count (% of All Students)	
			Total	**Free & Reduced Lunch Students**
2022-2023	154,722	79,294 (51%)	38,115 (25%)	17,220 (11%)

Computer Science Course Instructors

CS courses would not be available without qualified instructors to deliver instruction. In total, there were 9,601 instructors working in schools during the 2022-2023 school year. Of the 9,601 unique instructors working for the Department, 13% (1,237) were CS instructors.

Computer Science Course Instructors by Gender

School Year	All Instructors	All Computer Science Instructors Count (% of All Instructors)		
		Total	Female Instructors	Male Instructors
2022-2023	9,601	1,237 (13%)	1,032 (11%)	205 (2%)

Computer Science Course Instructors by Race/Ethnicity

School Year	All Instructors	All Computer Science Instructors Count (% of All Instructors)							
		Total	Asian	Black	Native Hawaiian	Other Pacific Islander	Two or More Races	White	Other
2022-2023	9,601	1,237 (12.88%)	547 (5.7%)	16 (0.2%)	112 (1.2%)	2 (0.02%)	319 (3.3%)	235 (2.4%)	6 (0.06%)

Computer Science Course Instructors by Degree/Applicable Certification

School Year	All Instructors	All Computer Science Instructors Count (% of All Instructors)					
		Total	Bachelor's	Master's	Post-Baccalaureate	Doctorate	Other
2022-2023	9,601	1,237 (12.88%)	552 (5.7%)	421 (4.4%)	256 (2.7%)	7 (0.07%)	1 (0.01%)