KENTUCKY K-12 ANNUAL
COMPUTER SCIENCE
REPORT 2023

Introduction to the 2023
K-12 Computer Science Report

SB 193 (2020) establishes a requirement for the Department of Education to submit an annual report on public school students participating in computer science courses. The subsequent landscape report will gather relevant policy, student participation, and teacher development metrics and use them to further define, clarify and redirect ongoing state planning efforts.

This inter-office collaboration by the Kentucky Department of Education (KDE) seeks to not only provide information on current implementations but also guide future efforts to equitably provide access to Computer Science courses to all K-12 students and guides our strategies to achieve the goals outlined in our Comprehensive Computer Science Plan.

The Kentucky K-12 Computer Science Plan, as well as the respective standards, is designed to direct the efforts of Computer Science programming and oversight in three categorical areas:

<Think CS>
Stakeholders come together and define a community-specific strategy to embed CS work in schools

<Learn CS>
Train and equip teachers with relevant and rigorous PD to be able to provide meaningful CS learning opportunities for students aligned with the state CS strategies

<Do CS>
Provide ALL students the opportunity to apply learning in authentic application of their CS knowledge.

All three of these categories were identified as target domains based on prior-year CS Reporting data and are essential for an effective district-by-district CS strategy. With the focus on these areas, it is the hope that equitable access to high-quality computer science education can be provided to each and every student in the Commonwealth.
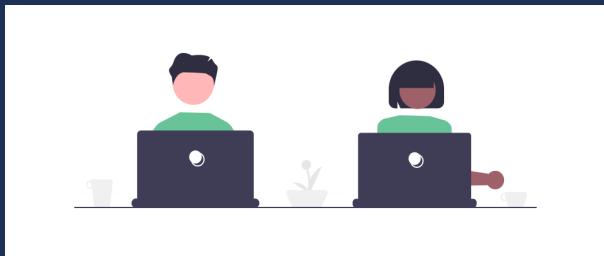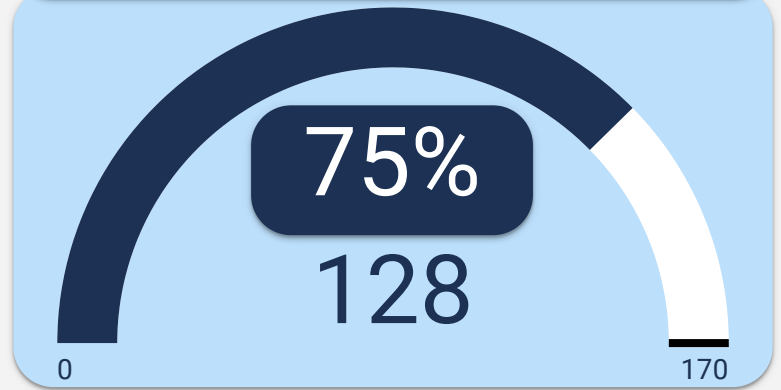
KY | State of Computer Science
State Snapshot

Kentucky Department of EDUCATION

Districts With At Least One Computer Science (CS) Course**

94%
159
0 — 170
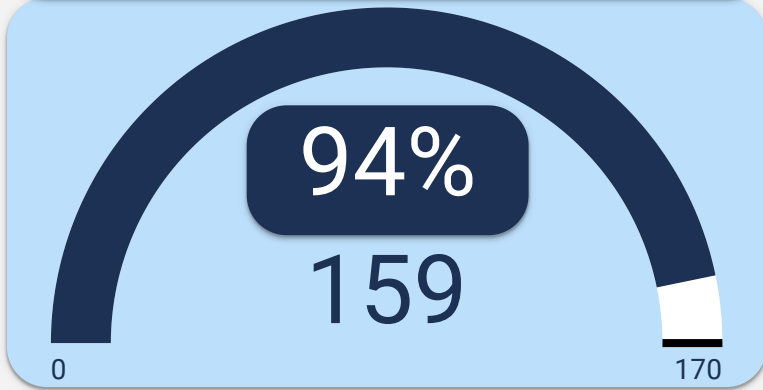
Access to Career and Technical Education (CTE) Path**

75%
128
0 — 170

22,345 Unique CS Students (6-12)

High Schools or ATCs with access to at least One CS Course

346

Districts with access to AP CS or Advanced Technical Programs

79%

Kentucky's Progress on Code.org's 10 Policies to Make CS Fundamental
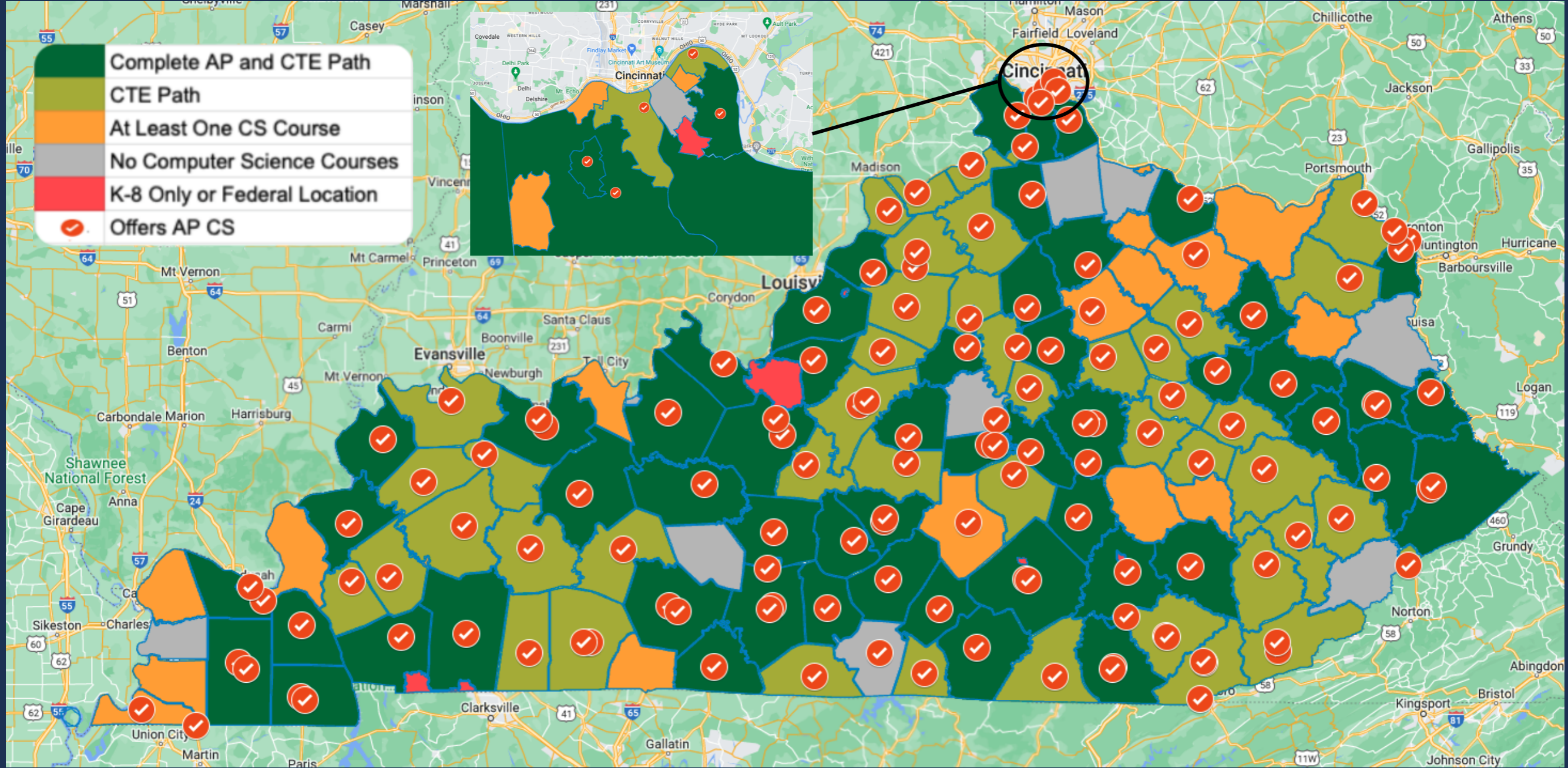
Allocate funding for rigorous computer

Establish rigorous K–12 computer science standards.	YES	Implement clear certification pathways for computer science teachers.	YES	Establish dedicated computer science positions in state education agencies.	YES	Allow computer science to satisfy a core graduation requirement.	YES	Require that all students take computer science to earn a high school diploma	NO
Create a state plan for K–12 computer science.	YES	Allocate funding for teacher professional learning and support.	YES	Create programs at institutions of higher education to offer computer science to preservice teachers.	NO	Require that all secondary schools offer computer science.	NO	Allow computer science to satisfy an admission requirement at institutions of higher education.	YES

Data Sources: Report represents data from the 2022 -2023 school year from multiple data sources: Code.org, College Board, AdvanceKentucky, KY Student Information System, and EPSB

**K-8 Independent districts or DoD removed from total calculation. Participation includes students attending regional ATC for instruction or through online/virtual instruction.

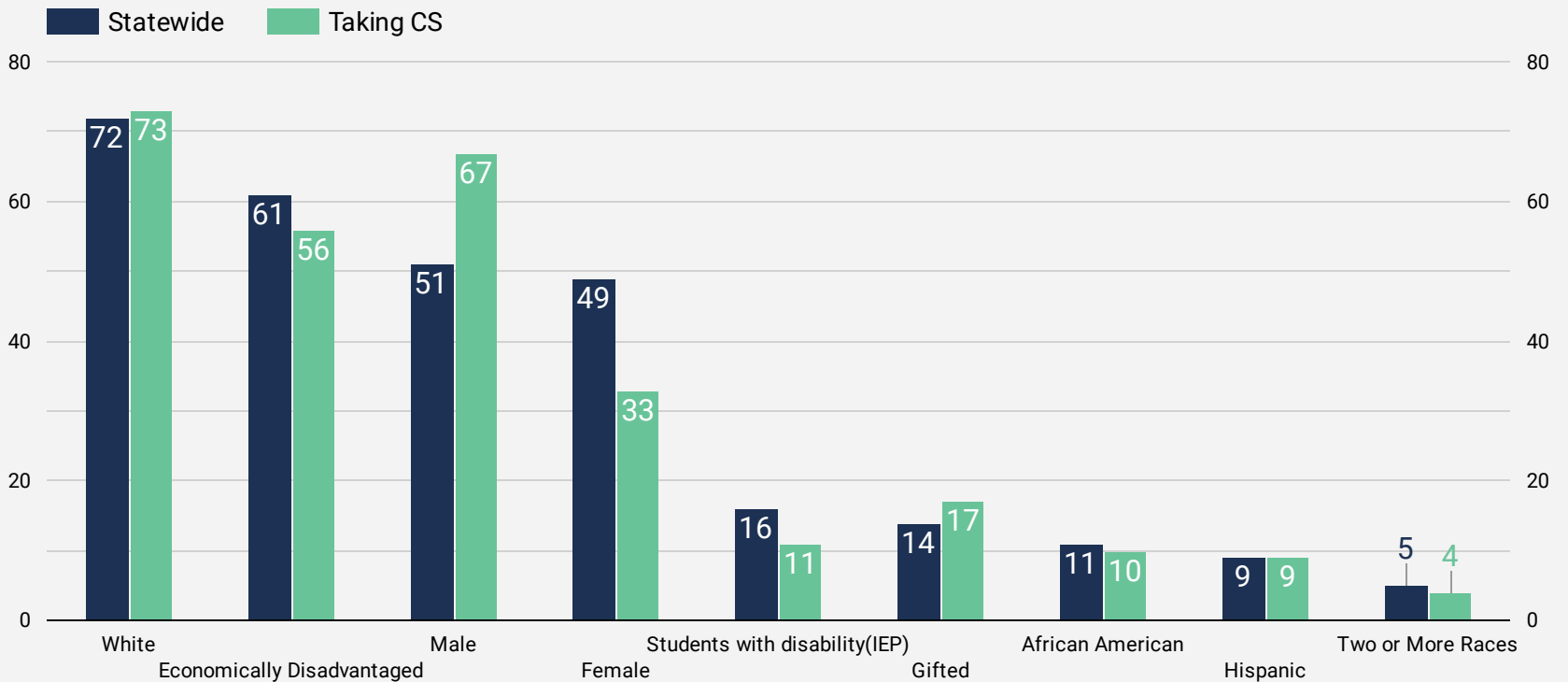Statewide Computer Science Course Implementation Map

Legend:
- Complete AP and CTE Path
- CTE Path
- At Least One CS Course
- No Computer Science Courses
- K-8 Only or Federal Location
- Offers AP CS

CS Student Top Demographic Percentages vs Statewide Representation

Legend: Statewide, Taking CS

Demographic	Statewide	Taking CS
White	72	73
Economically Disadvantaged	61	56
Male	51	67
Female	49	33
Students with disability(IEP)	16	11
Gifted	14	17
African American	11	10
Hispanic	9	9
Two or More Races	5	4

State level Enrollments by Demographic and Course

State Course	Total	Female	Male	African American	Hispanic	American Indian or Alaska Native	Asian	Native Hawaiian or Other Pacific Islander	Two or More Races	White	Gifted and Talented	Students with disability(IEP)	Economically Disadvantaged
One or more CS course(s) taken	22,345	7,390	14,955	2,243	1,984	40	832	26	856	16,364	3,870	2,478	12,608
110110 Computer Literacy	6,506	2,593	3,913	903	768	8	98	4	224	4,501	691	826	4,204
219918 Intro to Comp Science MS	4,109	1,723	2,386	204	284	9	80	6	182	3,344	641	544	2,369
110711 AP Computer Science Principles	1,584	416	1,168	169	114	5	176	3	56	1,061	562	63	623
110201 Inro to Programming	1,551	321	1,230	220	147	3	72	2	63	1,044	283	138	912
110710 Intro to Computer Science	1,255	382	873	85	94	0	63	0	42	971	246	121	635
110251 Computational Thinking	1,059	224	835	101	107	3	38	2	39	769	182	114	651

State level Enrollments by Demographic and Course (Cont.)

State Course	Total ▾	Female	Male	African American	Hispanic	American Indian or Alaska Native	Asian	Native Hawaiian or Other Pacific Islander	Two or More Races	White	Gifted and Talented	Students with disability(IEP)	Economically Disadvantaged
110101 Comp Hardware/Software Maint	909	114	795	70	64	2	23	2	34	714	142	113	502
110801 Web Page Development	808	283	525	55	53	2	21	1	33	643	111	88	488
113605 Game Design and Dev Principles	729	121	608	114	56	1	11	1	22	524	76	110	471
113601 Intro to Digital Game Graphics	607	133	474	63	40	3	7	1	21	472	86	93	361
110701 AP Computer Science A	594	155	439	23	39	1	103	2	21	405	265	12	202
060199 Web Page Design	522	162	360	41	36	0	14	0	21	410	88	73	284
110102 Help Desk Operations	505	108	397	24	17	0	12	1	12	439	123	44	236
110225 Computer Science	484	177	307	35	35	2	10	0	21	381	68	44	209
110917 Internet Technologies	344	113	231	22	28	0	3	0	20	271	63	39	207
110226 Project-Based Programming	324	87	237	21	26	0	48	0	12	217	96	10	111
110205 JAVA Programming I	322	91	231	14	14	0	64	0	16	214	143	13	97
110804 Website Design and Production	300	85	215	23	13	1	4	0	13	246	48	32	157
110901 Intro/Net.Concepts(non-vendor)	233	19	214	12	14	1	6	0	5	195	43	36	124
110220 Object-Oriented Prog I	226	49	177	25	16	0	8	0	8	169	41	16	99
210239 Robotics Automation and Design	223	42	181	22	63	0	2	0	8	128	27	21	138
110230 Cybersecurity	186	33	153	19	17	0	1	0	9	140	34	15	99
110919 Computer Science Internship	181	27	154	3	10	1	6	0	9	152	57	14	70
113602 Adv Game Dev and Publishing	172	30	142	22	15	1	3	1	4	126	23	19	93
110399 Leadership Dynamics/Info.Tech.	137	83	54	2	4	0	0	0	6	125	32	5	72
110223 Cyber Literacy II	131	28	103	45	36	0	10	0	3	37	10	12	96
110224 Cyber Science	123	32	91	53	24	0	6	0	6	34	18	13	92

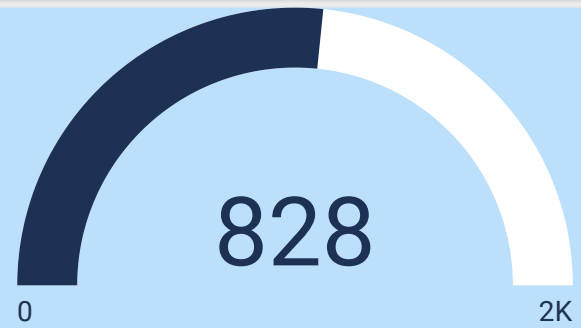| State Course	Total	Female	Male	African American	Hispanic	American Indian or Alaska Native	Asian	Native Hawaiian or Other Pacific Islander	Two or More Races	White	Gifted and Talented	Students with disability(IEP)	Economically Disadvantaged
110912 Security Fundamentals	116	11	105	13	10	1	2	0	3	87	20	10	55
110222 Cyber Literacy I	107	25	82	30	19	0	11	1	1	45	12	20	78
110213 Design for the Internet	105	37	68	7	4	1	1	0	1	91	19	22	64
113603 Advanced 3D Game Development	99	12	87	4	3	2	2	0	4	84	14	12	46
110809 JavaScript	95	13	82	3	6	1	1	0	2	82	26	8	53
110206 JAVA Programming II	82	28	54	2	0	0	27	0	6	47	57	0	12
110302 Management of Support Services	72	14	58	6	7	0	0	0	0	59	12	11	47
110902 Network. Fundamentals/Cisco I	64	5	59	1	0	0	3	0	0	60	17	6	41
110821 App Development with Swift	63	15	48	3	3	1	1	0	3	52	18	5	20
111001 Comp., Networks, and Databases	55	23	32	3	3	1	2	0	2	44	8	3	35
110918 Computer Science Co-op	54	6	48	2	5	0	0	0	0	47	12	2	20
110903 Routing Prot&Concepts/Cisco 2	44	10	34	0	1	0	3	0	0	40	11	5	30
110252 ST: Programming	44	11	33	0	4	0	1	0	1	38	15	5	17
110752 ST: Computer Science	36	4	32	0	1	0	6	0	2	27	6	2	18
110952 ST: Networking	28	3	25	3	3	0	0	0	0	22	4	5	13
110204 Productivity Software	27	7	20	0	1	0	0	0	0	26	3	3	16
110221 Object-Oriented Prog II	25	3	22	0	1	0	0	0	1	23	6	3	16
110152 ST: Info. Sppt & Services	16	9	7	0	0	0	0	0	0	16	1	3	11
070331 Data Modeling/SQL	16	4	12	0	0	0	0	0	0	16	13	0	6
110913 Microsoft Client Server/Config	15	0	15	0	0	0	0	0	0	15	6	0	11
110906 Net. Hardware Install/Trblshtg	14	0	14	2	1	0	0	0	1	10	0	5	7
110211 Intro to Database Design	11	2	9	3	1	0	2	0	0	5	4	0	3

State level Enrollments by Demographic and Course (Cont.)

State Course	Total	Female	Male	African American	Hispanic	American Indian or Alaska Native	Asian	Native Hawaiian or Other Pacific Islander	Two or More Races	White	Gifted and Talented	Students with disability(IEP)	Economically Disadvantaged
110852 ST: Web Development/Admin	9	1	8	1	2	0	0	0	1	5	1	1	2
110904 LAN Swtch&Wrls/Scal.Net/Cisco3	7	2	5	0	0	0	0	0	0	7	0	0	5
111002 Design for the Digital World	6	3	3	0	0	0	0	0	0	6	1	1	4
110905 Acc the WAN/Con Network/Cisco 4	6	2	4	0	0	0	0	0	0	6	0	0	4
113604 Dig 3D Graphics & Spec Eff II	4	0	4	0	0	0	0	0	0	4	0	1	0
110214 C# I	3	0	3	0	1	0	0	0	1	1	2	0	0

AP Exam Data

1544 Unique AP CS Students

Number of Students Scoring 3+

828
0   2K

Percentage of Populations Taking Exam and Receiving Qualifying Scores

■ 2023 Exam Percentage   ■ 2023 3+ Exam Percentage

	Male	White	Female	Asian	African American	Hispanic	No Response	Two or More Races
2023 Exam Percentage	72%	62%	26%	16%	7%	7%	4%	4%
2023 3+ Exam Percentage	39%	33%	14%	10%	2%	3%	2%	2%