As Reported by the House Education and Career Readiness Committee

132nd General Assembly

Regular Session 2017-2018

Sub. H. B. No. 170

Representatives Carfagna, Duffey

Cosponsors: Representatives Brenner, LaTourette, Reineke, Boggs, Hambley, Koehler

A BILL

То	amend sections 3301.079 and 3313.603 and to	1
	enact sections 3301.012, 3314.0110, 3315.17,	2
	3319.236, and 3326.082 of the Revised Code with	3
	regard to academic content standards and	4
	curriculum requirements for computer science; to	5
	revise educator qualifications regarding	6
	computer science; and to authorize public	7
	schools to establish computer science and	8
	technology funds.	9

BE IT ENACTED BY THE GENERAL ASSEMBLY OF THE STATE OF OHIO:

Section 1. That sections 3301.079 and 3313.603 be amended	10
and sections 3301.012, 3314.0110, 3315.17, 3319.236, and	11
3326.082 of the Revised Code be enacted to read as follows:	12
Sec. 3301.012. As used in Chapters 3301. to 3329. and	13
Chapter 3365. of the Revised Code, "computer science" means	14
logical reasoning, computing systems, networks and the internet,	15
data and analysis, algorithms and programming, impacts of	16
computing, and structured problem solving skills applicable in	17
many contexts from science and engineering to the humanities and	18

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Declaration of Independence, the Northwest Ordinance, the
Constitution of the United States and its amendments, with
emphasis on the Bill of Rights, and the Ohio Constitution, and
their original context. The state board shall revise the model
curricula and achievement assessments adopted under divisions
(B) and (C) of this section as necessary to reflect the
additional American history and American government content. The
state board shall make available a list of suggested grade-
appropriate supplemental readings that place the documents
prescribed by this division in their historical context, which
teachers may use as a resource to assist students in reading the
documents within that context.

- (c) When the state board adopts or revises academic content standards in social studies, American history, American government, or science under division (A)(1) of this section, the state board shall develop such standards independently and not as part of a multistate consortium.
- (2) After completing the standards required by division
 (A)(1) of this section, the state board shall adopt standards and model curricula for instruction in technology, financial literacy and entrepreneurship, fine arts, and foreign language for grades kindergarten through twelve. The standards shall meet the same requirements prescribed in division (A)(1)(a) of this section.
- (3) The state board shall adopt the most recent standards developed by the national association for sport and physical education for physical education in grades kindergarten through twelve or shall adopt its own standards for physical education in those grades and revise and update them periodically.

The department of education shall employ a full-time

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physical education coordinator to provide guidance and technical 77 assistance to districts, community schools, and STEM schools in 78 implementing the physical education standards adopted under this 79 division. The superintendent of public instruction shall 80 determine that the person employed as coordinator is qualified 81 for the position, as demonstrated by possessing an adequate 82 combination of education, license, and experience. 83 (4) Not later than December 31, 2018, the state board 84 shall adopt standards and a model curriculum for instruction in 85 computer science in grades kindergarten through twelve, which 86 shall include standards for introductory and advanced computer 87 science courses in grades nine through twelve. When developing 88 the standards and curriculum, the state board shall consider 89 recommendations from computer science education stakeholder 90 groups, including teachers and representatives from higher 91 education, industry, computer science organizations in Ohio, and 92 national computer science organizations. 93 Any district or school may utilize the computer science 94 standards or model curriculum or any part thereof adopted 95 pursuant to division (A)(4) of this section. However, no 96 district or school shall be required to utilize all or any part 97 of the standards or curriculum. 98 (5) When academic standards have been completed for any 99 subject area required by this section, the state board shall 100 inform all school districts, all community schools established 101 under Chapter 3314. of the Revised Code, all STEM schools 102 established under Chapter 3326. of the Revised Code, and all 103 nonpublic schools required to administer the assessments 104 prescribed by sections 3301.0710 and 3301.0712 of the Revised 105 Code of the content of those standards. Additionally, upon 106

completion of any academic standards under this section, the 107 department shall post those standards on the department's web 108 site. 109 (B)(1) The state board shall adopt a model curriculum for 110 instruction in each subject area for which updated academic 111 standards are required by division (A)(1) of this section and 112 for each of grades kindergarten through twelve that is 113 sufficient to meet the needs of students in every community. The 114 model curriculum shall be aligned with the standards, to ensure 115 that the academic content and skills specified for each grade 116 level are taught to students, and shall demonstrate vertical 117 articulation and emphasize coherence, focus, and rigor. When any 118 model curriculum has been completed, the state board shall 119 inform all school districts, community schools, and STEM schools 120 of the content of that model curriculum. 121 (2) Not later than June 30, 2013, the state board, in 122 consultation with any office housed in the governor's office 123 that deals with workforce development, shall adopt model 124 curricula for grades kindergarten through twelve that embed 125 126 career connection learning strategies into regular classroom instruction. 127 (3) All school districts, community schools, and STEM 128 schools may utilize the state standards and the model curriculum 129 established by the state board, together with other relevant 130 resources, examples, or models to ensure that students have the 131 opportunity to attain the academic standards. Upon request, the 132 department shall provide technical assistance to any district, 133 community school, or STEM school in implementing the model 134 curriculum. 135

Nothing in this section requires any school district to

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classroom, appointed by the speaker of the house of representatives;	224 225
(iv) The chancellor of the Ohio board of regents, or the chancellor's designee;	226 227
(v) The state superintendent, or the superintendent's designee, who shall serve as the chairperson of the committee.	228 229
(b) The mathematics academic standards review committee is hereby created to review academic content standards in the subject of mathematics. The committee shall consist of the following members:	230 231 232 233
(i) Three experts who are residents of this state and who primarily conduct research, provide instruction, currently work in, or possess an advanced degree in the subject area. One expert shall be appointed by each of the president of the senate, the speaker of the house of representatives, and the governor;	234 235 236 237 238 239
<pre>(ii) One parent or guardian appointed by the speaker of the house of representatives; (iii) One educator who is currently teaching in a</pre>	240 241 242
classroom, appointed by the president of the senate; (iv) The chancellor, or the chancellor's designee;	243
(v) The state superintendent, or the superintendent's designee, who shall serve as the chairperson of the committee.	245 246
(c) The science academic standards review committee is hereby created to review academic content standards in the subject of science. The committee shall consist of the following members:	247248249250

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expert shall be appointed by each of the president of the

governor;

the house of representatives;

senate, the speaker of the house of representatives, and the

(iii) One educator who is currently teaching in a

classroom, appointed by the president of the senate;

(ii) One parent or quardian appointed by the speaker of

(iv) The chancellor, or the chancellor's designee; 279 (v) The state superintendent, or the superintendent's 280 designee, who shall serve as the chairperson of the committee. 281 (2)(a) Each committee created in division (I)(1) of this 282 section shall review the academic content standards for its 283 respective subject area to ensure that such standards are clear, 284 concise, and appropriate for each grade level and promote higher 285 student performance, learning, subject matter comprehension, and 286 improved student achievement. Each committee also shall review 287 whether the standards for its respective subject area promote 288 essential knowledge in the subject, lifelong learning, the 289 liberal arts tradition, and college and career readiness and 290 whether the standards reduce remediation. 291 (b) Each committee shall determine whether the assessments 292 submitted to that committee under division (I)(4) of this 293 section are appropriate for the committee's respective subject 294 area and meet the academic content standards adopted under this 295 section and community expectations. 296 (3) The department of education shall provide 297 administrative support for each committee created in division 298 (I)(1) of this section. Members of each committee shall be 299 reimbursed for reasonable and necessary expenses related to the 300 operations of the committee. Members of each committee shall 301 serve at the pleasure of the appointing authority. 302 (4) Notwithstanding anything to the contrary in division 303 (0) of section 3301.0711 of the Revised Code, the department 304 shall submit to the appropriate committee created under division 305 (I) (1) of this section copies of the questions and corresponding 306 answers on the relevant assessments required by section 307

(4) "Focus" means limiting the number of items included in

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(b) Life sciences, one unit;

sciences, one unit:

(c) Advanced study in one or more of the following

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Beginning with students who enter ninth grade for the 447 first time on or after July 1, 2017, the two units of 448 instruction prescribed by division (C)(7) of this section shall 449 include at least one-half unit of instruction in the study of 450 world history and civilizations. 451

(8) Five units consisting of one or any combination of 452 foreign language, fine arts, business, career-technical 453 education, family and consumer sciences, technology_which may_ 454 include computer science, agricultural education, a junior 455 456 reserve officer training corps (JROTC) program approved by the congress of the United States under title 10 of the United 457 States Code, or English language arts, mathematics, science, or 458 social studies courses not otherwise required under division (C) 459 of this section. 460

Ohioans must be prepared to apply increased knowledge and 461 skills in the workplace and to adapt their knowledge and skills 462 quickly to meet the rapidly changing conditions of the twenty-463 first century. National studies indicate that all high school 464 graduates need the same academic foundation, regardless of the 465 opportunities they pursue after graduation. The goal of Ohio's 466 system of elementary and secondary education is to prepare all 467 students for and seamlessly connect all students to success in 468 life beyond high school graduation, regardless of whether the 469 next step is entering the workforce, beginning an 470 apprenticeship, engaging in post-secondary training, serving in 471 the military, or pursuing a college degree. 472

The requirements for graduation prescribed in division (C) of this section are the standard expectation for all students entering ninth grade for the first time at a public or chartered nonpublic high school on or after July 1, 2010. A student may

satisfy this expectation through a variety of met	hods, 47
including, but not limited to, integrated, applied	d, career- 478
technical, and traditional coursework.	479

Whereas teacher quality is essential for student success

when completing the requirements for graduation, the general

assembly shall appropriate funds for strategic initiatives

designed to strengthen schools' capacities to hire and retain

highly qualified teachers in the subject areas required by the

curriculum. Such initiatives are expected to require an

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investment of \$120,000,000 over five years.

Stronger coordination between high schools and 487 institutions of higher education is necessary to prepare 488 students for more challenging academic endeavors and to lessen 489 the need for academic remediation in college, thereby reducing 490 the costs of higher education for Ohio's students, families, and 491 the state. The state board and the chancellor of higher 492 education shall develop policies to ensure that only in rare 493 instances will students who complete the requirements for 494 graduation prescribed in division (C) of this section require 495 496 academic remediation after high school.

School districts, community schools, and chartered 497 nonpublic schools shall integrate technology into learning 498 experiences across the curriculum in order to maximize 499 efficiency, enhance learning, and prepare students for success 500 in the technology-driven twenty-first century. Districts and 501 schools shall use distance and web-based course delivery as a 502 method of providing or augmenting all instruction required under 503 this division, including laboratory experience in science. 504 Districts and schools shall utilize technology access and 505 electronic learning opportunities provided by the broadcast 506

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educational media commission, chancellor, the Ohio learning	507
network, education technology centers, public television	508
stations, and other public and private providers.	509

- (D) Except as provided in division (E) of this section, a student who enters ninth grade on or after July 1, 2010, and before July 1, 2016, may qualify for graduation from a public or chartered nonpublic high school even though the student has not completed the requirements for graduation prescribed in division (C) of this section if all of the following conditions are satisfied:
- (1) During the student's third year of attending high 517 school, as determined by the school, the student and the 518 student's parent, quardian, or custodian sign and file with the 519 school a written statement asserting the parent's, guardian's, 520 or custodian's consent to the student's graduating without 521 completing the requirements for graduation prescribed in 522 division (C) of this section and acknowledging that one 523 consequence of not completing those requirements is 524 ineligibility to enroll in most state universities in Ohio 525 without further coursework. 526
- (2) The student and parent, quardian, or custodian fulfill 527 any procedural requirements the school stipulates to ensure the 528 student's and parent's, quardian's, or custodian's informed 529 consent and to facilitate orderly filing of statements under 530 division (D)(1) of this section. Annually, each district or 531 school shall notify the department of the number of students who 532 choose to qualify for graduation under division (D) of this 533 section and the number of students who complete the student's 534 success plan and graduate from high school. 535
 - (3) The student and the student's parent, quardian, or

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of this section which shall include inquiry-based laboratory 564 experience that engages students in asking valid scientific 565 questions and gathering and analyzing information. 566

The department, in collaboration with the chancellor, 567 shall analyze student performance data to determine if there are 568 mitigating factors that warrant extending the exception 569 permitted by division (D) of this section to high school classes 570 beyond those entering ninth grade before July 1, 2016. The 571 department shall submit its findings and any recommendations not 572 later than December 1, 2015, to the speaker and minority leader 573 of the house of representatives, the president and minority 574 leader of the senate, the chairpersons and ranking minority 575 members of the standing committees of the house of 576 representatives and the senate that consider education 577 legislation, the state board of education, and the 578 superintendent of public instruction. 579

- (E) Each school district and chartered nonpublic school
 retains the authority to require an even more challenging
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 minimum curriculum for high school graduation than specified in
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 division (B) or (C) of this section. A school district board of
 education, through the adoption of a resolution, or the
 governing authority of a chartered nonpublic school may
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 stipulate any of the following:
- (1) A minimum high school curriculum that requires more than twenty units of academic credit to graduate;
- (2) An exception to the district's or school's minimum 589 high school curriculum that is comparable to the exception 590 provided in division (D) of this section but with additional 591 requirements, which may include a requirement that the student 592 successfully complete more than the minimum curriculum 593

prescribed in division (B) of this section;	594
(3) That no exception comparable to that provided in	595
division (D) of this section is available.	596
(F) A student enrolled in a dropout prevention and	597
recovery program, which program has received a waiver from the	598
department, may qualify for graduation from high school by	599
successfully completing a competency-based instructional program	600
administered by the dropout prevention and recovery program in	601
lieu of completing the requirements for graduation prescribed in	602
division (C) of this section. The department shall grant a	603
waiver to a dropout prevention and recovery program, within	604
sixty days after the program applies for the waiver, if the	605
program meets all of the following conditions:	606
(1) The program serves only students not younger than	607
sixteen years of age and not older than twenty-one years of age.	608
(2) The program enrolls students who, at the time of their	609
initial enrollment, either, or both, are at least one grade	610
level behind their cohort age groups or experience crises that	611
significantly interfere with their academic progress such that	612
they are prevented from continuing their traditional programs.	613
(3) The program requires students to attain at least the	614
applicable score designated for each of the assessments	615
prescribed under division (B)(1) of section 3301.0710 of the	616
Revised Code or, to the extent prescribed by rule of the state	617
board under division (D)(5) of section 3301.0712 of the Revised	618
Code, division (B)(2) of that section.	619
(4) The program develops a student success plan for the	620
student in the manner described in division (C)(1) of section	621

3313.6020 of the Revised Code that specifies the student's

submitted to the department a written agreement outlining the

this section and the course qualified for high school credit

under	that	divi	sion	, the	high	school	shall	record	that	course	on	681
the st	tudent	's h	igh	school	tran	nscript.	•					682

- (H) The department shall make its individual academic 683 career plan available through its Ohio career information system 684 web site for districts and schools to use as a tool for 685 communicating with and providing guidance to students and 686 families in selecting high school courses. 687
- (I) Units earned in English language arts, mathematics,

 science, and social studies that are delivered through
 integrated academic and career-technical instruction are
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 eligible to meet the graduation requirements of division (B) or
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 (C) of this section.
- (J)(1) The state board, in consultation with the chancellor, shall adopt a statewide plan implementing methods for students to earn units of high school credit based on a demonstration of subject area competency, instead of or in combination with completing hours of classroom instruction. The state board shall adopt the plan not later than March 31, 2009, and commence phasing in the plan during the 2009-2010 school year. The plan shall include a standard method for recording demonstrated proficiency on high school transcripts. Each school district and community school shall comply with the state board's plan adopted under this division and award units of high school credit in accordance with the plan. The state board may adopt existing methods for earning high school credit based on a demonstration of subject area competency as necessary prior to the 2009-2010 school year.
- (2) Not later than December 31, 2015, the state board
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 shall update the statewide plan adopted pursuant to division (J)
 (1) of this section to also include methods for students
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enrolled in seventh and eighth grade to meet curriculum 711 requirements based on a demonstration of subject area 712 competency, instead of or in combination with completing hours 713 of classroom instruction. Beginning with the 2017-2018 school 714 year, each school district and community school also shall 715 comply with the updated plan adopted pursuant to this division 716 and permit students enrolled in seventh and eighth grade to meet 717 curriculum requirements based on subject area competency in 718 719 accordance with the plan.

(K) This division does not apply to students who qualify 720 for graduation from high school under division (D) or (F) of 721 this section, or to students pursuing a career-technical 722 723 instructional track as determined by the school district board of education or the chartered nonpublic school's governing 724 authority. Nevertheless, the general assembly encourages such 725 students to consider enrolling in a fine arts course as an 726 elective. 727

Beginning with students who enter ninth grade for the 728 first time on or after July 1, 2010, each student enrolled in a 729 public or chartered nonpublic high school shall complete two 730 semesters or the equivalent of fine arts to graduate from high 731 school. The coursework may be completed in any of grades seven 732 to twelve. Each student who completes a fine arts course in 733 grade seven or eight may elect to count that course toward the 734 five units of electives required for graduation under division 735 (C)(8) of this section, if the course satisfied the requirements 736 of division (G) of this section. In that case, the high school 737 shall award the student high school credit for the course and 738 count the course toward the five units required under division 739 (C)(8) of this section. If the course in grade seven or eight 740 did not satisfy the requirements of division (G) of this 741 section, the high school shall not award the student high school

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credit for the course but shall count the course toward the two

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semesters or the equivalent of fine arts required by this

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division.

- (L) Notwithstanding anything to the contrary in this 746 section, the board of education of each school district and the 747 governing authority of each chartered nonpublic school may adopt 748 a policy to excuse from the high school physical education 749 requirement each student who, during high school, has 750 751 participated in interscholastic athletics, marching band, or 752 cheerleading for at least two full seasons or in the junior reserve officer training corps for at least two full school 753 754 years. If the board or authority adopts such a policy, the board or authority shall not require the student to complete any 755 physical education course as a condition to graduate. However, 756 the student shall be required to complete one-half unit, 7.5.7 consisting of at least sixty hours of instruction, in another 758 course of study. In the case of a student who has participated 759 in the junior reserve officer training corps for at least two 760 full school years, credit received for that participation may be 761 used to satisfy the requirement to complete one-half unit in 762 another course of study. 763
- (M) It is important that high school students learn and 764 understand United States history and the governments of both the 765 United States and the state of Ohio. Therefore, beginning with 766 students who enter ninth grade for the first time on or after 767 July 1, 2012, the study of American history and American 768 government required by divisions (B)(6) and (C)(6) of this 769 section shall include the study of all of the following 770 771 documents:

(1) The Declaration of Independence;	772
(2) The Northwest Ordinance;	773
(3) The Constitution of the United States with emphasis on	774
the Bill of Rights;	775
(4) The Ohio Constitution.	776
The study of each of the documents prescribed in divisions	777
(M) (1) to (4) of this section shall include study of that	778
document in its original context.	779
The study of American history and government required by	780
divisions (B)(6) and (C)(6) of this section shall include the	781
historical evidence of the role of documents such as the	782
Federalist Papers and the Anti-Federalist Papers to firmly	783
establish the historical background leading to the establishment	784
of the provisions of the Constitution and Bill of Rights.	785
(N) A student may apply one unit of instruction in	786
computer science to satisfy one unit of mathematics or one unit	787
of science under division (C) of this section as the student	788
chooses, regardless of the field of certification of the teacher	789
who teaches the course, so long as that teacher meets the	790
licensure requirements prescribed by section 3319.236 of the	791
Revised Code and, prior to teaching the course, completes a	792
professional development program determined to be appropriate by	793
the district board.	794
If a student applies more than one computer science course	795
to satisfy curriculum requirements under that division, the	796
courses shall be sequential and progressively more difficult or	797
cover different subject areas within computer science.	798
Sec. 3314.0110. (A) The governing authority of any	799

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community school established under this chapter may establish a	800
computer science and technology fund to support computer science	801
programs and professional development related to those programs	802
operated by the community school. The fund may consist of	803
community school moneys that legally may be used for that	804
purpose and that are not otherwise designated for other	805
purposes. It also may consist of private moneys donated to the	806
school or any future state moneys allocated to the school for	807
that purpose. The governing authority may use any amount in the	808
fund to leverage or match any additional private donations that	809
may be made to the school for that purpose.	810
(B) Moneys in the fund may be used for any of the	811
<pre>following:</pre>	812
(1) Professional development related to computer science	813
programs;	814
(2) The delivery of online assessments, including	815
instruction and data that support online assessment readiness;	816
(3) Wireless connectivity in school buildings;	817
(4) Network services, such as improving bandwidth capacity	818
and filtering devices;	819
(5) The purchase of computers, tablets, and equipment.	820
Sec. 3315.17. (A) The board of education of each city,	821
local, exempted village, and joint vocational school district	822
and the governing board of each educational service center may	823
establish a computer science and technology fund to support	824
computer science programs and professional development related	825
to those programs operated by the district or service center.	826
The fund may consist of district or service center moneys that	827
legally may be used for that purpose and that are not otherwise	828

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suppremental teaching license for teaching computer science. The	837
rules shall require an applicant for a supplemental teaching	858
license to pass a content examination in the area of computer	859
science. The rules also shall permit an individual, after at	860
least two years of successfully teaching computer science	861
courses under the supplemental teaching license, to advance to a	862
standard educator license in computer science by completing a	863
pedagogy course applicable to the grade levels in which the	864
individual is teaching. However, the rules may exempt an	865
individual teaching computer science from the requirement to	866
complete a pedagogy course if the individual previously	867
completed a pedagogy course applicable to the grade levels in	868
which the individual is teaching.	869
(C) In order for an individual to teach advanced placement	870
computer science courses, a school district shall require the	871
individual to also complete a professional development program	872
endorsed or provided by the organization that creates and	873
administers national advanced placement examinations. For this	874
purpose, the individual may complete the program at any time	875
during the calendar year.	876
Sec. 3326.082. (A) The governing body of any science,	877
technology, engineering, or mathematics school established under	878
this chapter may establish a computer science and technology	879
fund to support computer science programs and professional	880
development related to those programs operated by the school.	881
The fund may consist of school moneys that legally may be used	882
for that purpose and that are not otherwise designated for other	883
purposes. It also may consist of private moneys donated to the	884
school or any future state moneys allocated to the school for	885
that purpose. The governing body may use any amount in the fund	886
to lovorage or match any additional private denations that may	0.0

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be made to the school for that purpose.	888
(B) Moneys in the fund may be used for any of the	889
<pre>following:</pre>	890
(1) Professional development related to computer science	891
programs;	892
(2) The delivery of online assessments, including	893
instruction and data that support online assessment readiness;	894
(3) Wireless connectivity in school buildings;	895
(4) Network services, such as improving bandwidth capacity	896
and filtering devices;	897
(5) The purchase of computers, tablets, and equipment.	898
Section 2. That existing sections 3301.079 and 3313.603 of	899
the Revised Code are hereby repealed.	900