

EIGHTEENTH CONGRESS OF THE )  
REPUBLIC OF THE PHILIPPINES )  
*First Regular Session* )



SENATE  
S. No. 99

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Introduced by Senator Aquilino “Koko” Pimentel III

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AN ACT  
INTEGRATING COMPUTER SCIENCE IN THE CURRICULUM  
OF THE ENHANCED BASIC EDUCATION (K-12) PROGRAM,  
APPROPRIATING FUNDS THEREFOR,  
AND FOR OTHER PURPOSES

EXPLANATORY NOTE

To thrive in this global and high-tech marketplace of the 21<sup>st</sup> century, one must be able to create technology. Lamentably, our current enhanced basic education program is inadequate to meet the needs of the times. Our ranking in the 2017-2018 Global Competitiveness Index where our overall ranking is 56 out of 137 countries, and only 61 in the “Innovation and sophistication factors” sub-index, reflects this reality.

This bill seeks to integrate computer science in all levels of the enhanced basic education curriculum. By introducing computer science fundamentals to our students, as early as possible and in an age-appropriate manner, we are effectively equipping them with the proper tools needed to make them capable digital age citizens and also preparing them for global competitiveness.

The speedy passage of this bill is therefore earnestly requested.

  
AQUILINO “KOKO” PIMENTEL III

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*Be it enacted by the Senate and the House of Representatives of the Philippines in Congress assembled:*

1       **SECTION 1.** *Short Title.* – This Act shall be known as the  
2       “*Computer Science Act of 2019.*”

3  
4       **SEC. 2.** *Declaration of Principles.* – It is the policy of the State to  
5       provide an integrated system of education that is complete, adequate, and  
6       relevant to the needs of the people and society.

7  
8       Likewise, it is hereby declared the policy of the State to develop a  
9       method of education that keeps up-to-date with modern technology,  
10       effectively equipping its graduates with the necessary skills for the  
11       changing times.

12  
13       Towards this end, the state shall constantly renew and review the  
14       existing curricula to ensure the inclusion, learning and utilization of  
15       modern technologies, computers, and other similar devices.

16

1           **SEC. 3. *Definition of Terms.*** – For purposes of this Act, the  
2 following terms shall be defined as follows:

3  
4           a.     “*Computer*” shall mean an electronic device that accepts  
5 digitalized data for the purpose of storing and processing information. It  
6 shall include all the hardware or physical parts attached to the computer  
7 system, and the software used therewith;

8  
9           b.     “*Computer Science*” shall mean the study of the theory behind  
10 the applications, structure and design of a computational system, and the  
11 specialization in the theory of computation. It shall include, but not be  
12 limited to computational complexity theory, computer graphics,  
13 programming language theory, basic HTML design, and other similar  
14 computer programming subjects;

15  
16           c.     “*DepEd*” shall mean the Department of Education;

17  
18           d.     “*DICT*” shall mean the Department of Information and  
19 Communications Technology;

20  
21           e.     “*Foundational Computer Programming Skills*” shall include, but  
22 not be limited to computational thinking, algorithms, looping,  
23 conditionals, variables, functions, abstractions, binary coding, sequences,  
24 debugging, internet safety, and the like;

25  
26           f.     “*Information and Communications Technology (ICT)*” shall  
27 mean the totality of electronic means to access, create, collect, store,  
28 process, receive, transmit, present and disseminate information, as  
29 defined in R.A. 10844, otherwise known as “The Department of  
30 Information and Communications Technology Act of 2015;”

31  
32           g.     “*K-12 Curriculum*” shall mean the enhanced basic education  
33 program as defined in R.A. 10533, otherwise known as the “Enhanced  
34 Basic Education Act of 2013.”

35  
36           **SEC. 4. *Mandatory Computer Science Education.*** – The design and  
37 details of the K-12 program shall be re-formulated to include computer

1 science, computer literacy, and information and communication  
2 technology as part of the basic subjects offered to students at all levels  
3 beginning Kinder. The revision must ensure that foundational computer  
4 programming skills needed for higher level education are developed in  
5 children as soon as practicable.

6  
7 The K-12 curriculum shall be further revised to create a Computer  
8 Science and Information and Communications Technology (ICT) strand  
9 under the Academic Track offered to Senior High School Students:  
10 *Provided*, the ICT strand currently under the Technology and Livelihood  
11 Education (TLE) and Technical – Vocational – Livelihood (TVL) Tracks  
12 shall be repositioned and moved to the Academic Track.

13  
14 **SEC. 5. *Implementing Rules and Regulations.*** – Role of DepEd and  
15 DICT – The DepEd shall, within ninety (90) days from the approval of  
16 this Act, formulate the design and details of computer science subjects  
17 and track, and issue the implementing rules and regulations necessary for  
18 the enforcement of this Act. It shall work in consultation with the  
19 necessary government agencies and other stakeholders including, but not  
20 limited to, private and public school associations, national student  
21 organizations, national teacher organizations, parent-teacher associations  
22 and other members of relevant private sectors.

23  
24 The DepEd shall ensure that the use of computers, or the  
25 introduction of the necessary computer and modern technology skills,  
26 shall be incorporated in the instruction of all subjects at all levels. The  
27 appropriate skills to be developed per grade level must be clearly defined  
28 and unified with the curriculum offered under the K-12 program.

29  
30 The DepEd shall provide the necessary training for teachers and  
31 school administrators for the proper enforcement of this Act. It shall,  
32 likewise, provide the schools with the equipment as may be required.

33  
34 The DepEd shall work with the DICT to ensure the computerization  
35 of all government-run schools offering the K-12 program.

1           The DICT shall be given five (5) years to provide all the schools  
2 nationwide with the necessary computer hardware and software, and to  
3 actualize the provisions of this Act.

4  
5           **SEC. 6. *Appropriations.*** – The sums as may be necessary for the  
6 effective implementation of this Act shall be provided in the annual  
7 General Appropriations Act.

8  
9           **SEC. 7. *Academic Freedom and Institutional Autonomy.*** – Nothing  
10 in this Act shall be construed as encroaching on the academic freedom  
11 and institutional autonomy of educational institutions, as provided under  
12 the Constitution.

13  
14           **SEC. 8. *Separability Clause.*** – If any provision of this Act is  
15 declared invalid or unconstitutional, the other provisions not affected by  
16 such declaration shall remain in full force and effect.

17  
18           **SEC. 9. *Repealing Clause.*** – All laws, executive and administrative  
19 orders, rules and regulations inconsistent with the foregoing provisions  
20 are hereby repealed or modified accordingly.

21  
22           **SEC. 10. *Effectivity.*** – This Act shall take effect fifteen (15) days  
23 after its publication in the Official Gazette or in a newspaper of general  
24 circulation.

25  
*Approved,*