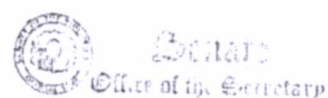


**SEVENTEENTH CONGRESS OF THE )**  
**REPUBLIC OF THE PHILIPPINES )**  
*Third Regular Session )*



'19 JAN 14 P5:00

**SENATE**

S. B. No. 2143

RECEIVED 

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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” subindex, 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.

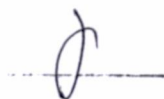
  
**AQUILINO “KOKO” PIMENTEL III**

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AND FOR OTHER PURPOSES

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

1        **SECTION 1.** *Short Title.* – This Act shall be known as the  
2        “*Computer Science in Schools 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,  
6        and 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

17       **SEC. 3.** *Definition of Terms.* – For purposes of this Act, the  
18       following terms shall mean:  
19

20       a.    “*Computer*” shall mean an electronic device that accepts  
21       digitized data for the purpose of storing and processing information. It



1 shall include all the hardware or physical parts attached to the computer  
2 system, and the software used therewith;

3  
4 b. “*Computer Science*” shall mean the study of the theory  
5 behind the applications, structure, and design of a computational system,  
6 and the specialization in the theory of computation. It shall include, but  
7 not be limited to computational complexity theory, computer graphics,  
8 programming language theory, basic HTML design, and other similar  
9 computer programming subjects;

10  
11 c. “*DepEd*” shall mean the Department of Education;

12  
13 d. “*DICT*” shall mean the Department of Information and  
14 Communications Technology;

15  
16 e. “*Foundational Computer Programming Skills*” shall include,  
17 but not be limited to computational thinking, algorithms, looping,  
18 conditionals, variables, functions, abstractions, binary coding,  
19 sequences, debugging, internet safety, and the like;

20  
21 f. “*Information and Communication Technology (ICT)*” shall  
22 mean the totality of electronic means to access, create, collect, store,  
23 process, receive, transmit, present and disseminate information, as  
24 defined in R.A. 10844, otherwise known as “The Department of  
25 Information and Communications Technology Act of 2015;”

26  
27 g. “*K-12 Program*” shall mean the enhanced basic education  
28 program as defined in R.A. 10533, otherwise known as the “Enhanced  
29 Basic Education Act of 2013.”

30  
31 **SEC. 4. *Mandatory Computer Science Education.*** – Computer  
32 Science Education is hereby integrated into the curriculum of the K-12  
33 Program to include computer science, computer literacy, and  
34 information and communication technology as part of the basic subjects  
35 offered to students at all levels beginning kindergarten. The revision  
36 must ensure that foundational computer programming skills needed for  
37 higher level education are developed in children as soon as practicable.

38  
39 The K-12 Program shall be further revised to create a Computer  
40 Science and Information and Communications Technology (ICT) strand  
41 under the Academic Track offered to Senior High School Students.  
42 *Provided, That the ICT strand currently under the Technology and*



1 Livelihood Education (TLE) and Technical – Vocational – Livelihood  
2 (TVL) Tracks shall be repositioned and moved to the Academic Track.

3  
4 **SEC. 5. *Implementing Rules and Regulations.*** – The DepEd shall,  
5 within ninety (90) days from the approval of this Act, formulate the  
6 design and details of computer science subjects and track, and issue the  
7 implementing rules and regulations necessary for the enforcement of this  
8 Act. It shall work in consultation with the necessary government  
9 agencies and other stakeholders including, but not limited to, private and  
10 public school associations, national student organizations, national  
11 teacher organizations, parent-teacher associations and other members of  
12 relevant private sectors.

13  
14 The DepEd shall ensure that the use of computers, or the  
15 introduction of the necessary computer and modern technology skills,  
16 shall be incorporated in the instruction of all subjects at all levels. The  
17 appropriate skills to be developed per grade level must be clearly  
18 defined and unified with the curriculum offered under the K-12  
19 Program.

20  
21 The DepEd shall provide the necessary training for teachers and  
22 school administrators for the proper enforcement of this Act. It shall,  
23 likewise, provide the schools with the equipment as may be required.

24  
25 The DepEd shall work with the DICT to ensure the  
26 computerization of all government-run schools offering the K-12  
27 Program.

28  
29 The DICT shall be given five (5) years to provide all the schools  
30 nationwide with the necessary computer hardware and software, and to  
31 actualize the provisions of this Act.

32  
33 **SEC. 6. *Appropriations.*** – The sums as may be necessary for the  
34 effective implementation of this Act shall be provided in the annual  
35 General Appropriations Act.

36  
37 **SEC. 7. *Academic Freedom and Institutional Autonomy.*** –  
38 Nothing in this Act shall be construed as encroaching upon the academic  
39 freedom and institutional autonomy of educational institutions, as  
40 provided under the Constitution.

41  
42 **SEC. 8. *Separability Clause.*** – If, for any reason, any part or  
43 provision of this Act is declared invalid or unconstitutional, the

1 remaining parts or provisions not affected shall remain in full force and  
2 effect.

3  
4 **SEC. 9. *Repealing Clause.*** – All laws, presidential decrees,  
5 executive orders, and rules and regulations contrary to or inconsistent  
6 with the provisions of this Act are hereby repealed or modified  
7 accordingly.

8  
9 **SEC. 10. *Effectivity.*** – This Act shall take effect fifteen (15) days  
10 after its publication in the Official Gazette or in two newspapers of  
11 general circulation.

*Approved,*