

JAN 20 2016

A BILL FOR AN ACT

RELATING TO ROBOTICS EDUCATION.

BE IT ENACTED BY THE LEGISLATURE OF THE STATE OF HAWAII:

1 SECTION 1. The legislature finds that Act 111, Session
2 Laws of Hawaii 2007, established, among other things, a career
3 and technical education program within the University of Hawaii
4 system, including a robotics and problem-based, applied learning
5 program which is administered by the University of Hawaii
6 college of engineering. The legislature further finds that
7 since the enactment of Act 111, a "robotics revolution" has
8 occurred, with the potential to reverse America's decline in
9 manufacturing by encouraging the production of high-end, quality
10 products, and the development of a smarter and more productive
11 workforce will prevent jobs from migrating to low-cost
12 countries.

13 Robots and robotic technologies represent a practical
14 application of physics, computer science, engineering, and
15 mathematics and provide a very powerful and flexible approach to
16 demonstrate a variety of engineering concepts. In addition,
17 robotics appeals to a broad range of interests and allows



1 multiple points of access to science, technology, engineering,
2 and mathematics for many types of learners. As a result,
3 robotics technology and robots are being used by an increasing
4 number of educators at the college level to reinforce computer
5 science and engineering theory and to teach basic software and
6 mechanical engineering at the elementary, middle, and high
7 school levels. Robots and robotic technology catalyze an
8 interest in science and increase self-esteem, as well as teach
9 basic life skills such as problem solving, decision making, goal
10 setting and logical thinking.

11 Hawaii can serve as a model of coordination of a full range
12 of robotics education opportunities from elementary through high
13 school and provide templates for initiating such efforts
14 elsewhere. The legislature further finds that in order to
15 realize the potential of technology as a major economic driver
16 in Hawaii, a skilled technical workforce is needed, requiring
17 major improvements to science education.

18 The purpose of this Act is to establish a Hawaii project
19 for robotics education under the University of Hawaii in
20 collaboration with the department of education.



1 SECTION 2. Chapter 302A, Hawaii Revised Statutes, is
2 amended by adding a new section to be appropriately designated
3 and to read as follows:

4 "§302A- Hawaii project for robotics education. (a) In
5 collaboration with the University of Hawaii, the department
6 shall implement the Hawaii project for robotics education as
7 provided in section 304A- .

8 (b) The preferred teachers in the Hawaii project for
9 robotics education shall be certified teachers with at least
10 five years in the classroom or as a resource teacher with an
11 emphasis in science, technology, or industrial arts; experience
12 in organizing and directing programs or activities; or with
13 experience participating in robotics education as a mentor,
14 facilitator, or volunteer."

15 SECTION 3. Chapter 304A, Hawaii Revised Statutes, is
16 amended by adding a new section to be appropriately designated
17 and to read as follows:

18 "§304A- Hawaii project for robotics education. (a) In
19 consultation with the department of education, the University of
20 Hawaii shall implement the Hawaii project for robotics
21 education.



1 (b) The purpose of the Hawaii project for robotics
2 education shall be to:

3 (1) Stimulate robotics education; and

4 (2) Foster the creation of a technically capable computer
5 engineering and computer science workforce in Hawaii.

6 (c) The Hawaii project for robotics education may
7 collaborate with the robotics and problem-based, applied
8 learning program under section 304A-1862 for purposes of
9 subsection (b).

10 (d) The Hawaii project for robotics education shall, at
11 minimum:

12 (1) Develop a template of the scholastic robotics
13 education programs available, describing the products,
14 activities, content and process skills required,
15 outcomes, schedules, resources, and other
16 requirements, with particular emphasis on the current
17 and future use of emerging and state of the art
18 technology in each program;

19 (2) Identify critical content and process skills required
20 for professional development for educators, including
21 programming language, wireless and other technology



1 applications, materials processing, design and
2 construction, teamwork and problem solving, and
3 inquiry and project based learning;

4 (3) Design professional education workshop templates to
5 address each of the content and skills components,
6 including the use and potential use of wireless
7 technology for each program;

8 (4) Plan and facilitate Hawaii regional and state robotic
9 tournaments and challenges;

10 (5) Seek support from collaborators and supporters,
11 including those from industry, higher education,
12 foundations, and federal agencies for additional
13 financial aid for teams and tournament infrastructure
14 costs; and

15 (6) Establish a web site with relevant information about
16 each of the programs, templates of activities, the
17 appropriate standards, the use of wireless technology
18 as part of the program activities, and links to
19 appropriate curriculum, resources, and other
20 products."



S.B. NO. 2010

1 SECTION 4. There is appropriated out of the general
2 revenues of the State of Hawaii the sum of \$ or so
3 much thereof as may be necessary for fiscal year 2016-2017 for
4 implementation of this Act.

5 The sum appropriated shall be expended by the department of
6 education for the purposes of this Act.

7 SECTION 5. There is appropriated out of the general
8 revenues of the State of Hawaii the sum of \$ or so
9 much thereof as may be necessary for fiscal year 2016-2017 for
10 implementation of this Act.

11 The sum appropriated shall be expended by the University of
12 Hawaii for the purposes of this Act.

13 SECTION 6. New statutory material is underscored.

14 SECTION 7. This Act shall take effect upon its approval;
15 provided that sections 4 and 5 shall take effect on July 1,
16 2016.

17 INTRODUCED BY:

Sharron Chun Oakland
Will Syre

Will Syre



S.B. NO. 2010

Report Title:

Robotics Education; Appropriation

Description:

Establishes the Hawaii project for robotics education under the University of Hawaii and the department of education. Makes appropriation for implementation expenses to the UH and the DOE.

The summary description of legislation appearing on this page is for informational purposes only and is not legislation or evidence of legislative intent.

