
A BILL FOR AN ACT

RELATING TO EDUCATION.

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

1 PART I

2 SECTION 1. The legislature finds that economic growth that
3 benefits all Hawaii residents depends on enhancing the State's
4 human resources.

5 Providing students with the specific skills needed for job
6 entry and broad, transferable skills that help students to
7 obtain employment in other fields is an integral part of
8 developing these human resources.

9 Career and technical education that includes:

- 10 (1) Pathway programs of study such as graphic design,
11 computer networking, and management information
12 systems;
- 13 (2) Academies for various focuses of study, including the
14 performing arts, travel, and science, technology,
15 engineering, and mathematics; and
- 16 (3) School activities such as project EAST (environmental
17 and spatial technology) and robotics,



1 are important in assisting Hawaii's students in gaining the
2 necessary skills required to compete in the global economy.

3 The legislature further finds that with the decline of the
4 sugar and pineapple industries in Hawaii, agricultural lands are
5 evolving into small diversified agricultural farms. Further,
6 with the demand for landscaping by many public and private
7 businesses, the landscaping industry is purportedly as large as
8 the diversified agriculture industry in Hawaii. The legislature
9 further finds that the need for agricultural workers, including
10 landscaping and other agriculture industry-related workers, runs
11 the gamut in terms of skill level. There is a critical need for
12 government support to establish an educational infrastructure
13 that prepares students for work in the agriculture and
14 agriculture-related industries. Appropriate programs would
15 assist in preparing students, who may not pursue higher
16 education, for jobs that are in demand.

17 To further ensure the success of Hawaii's students in the
18 global economy, they must be provided with innovative
19 educational programs, particularly in the fields of science,
20 technology, engineering, and mathematics.

21 Hence, the purpose of this Act is to:



- 1 (1) Support and enhance the career and technical education
2 efforts of both the department of education and
3 University of Hawaii system, as well as other public
4 and private business efforts, to prepare Hawaii's
5 students for further education and employment;
- 6 (2) Broaden the agriculture education program of the
7 department of education to offer educational
8 opportunities in the fields of farming, diversified
9 agriculture, landscaping, and related fields such as
10 market development and science and technology, and
11 require its coordination with culinary arts programs;
- 12 (3) Provide contextual learning experiences such as
13 participation in robotics;
- 14 (4) Make an array of experiential learning opportunities
15 available to students to afford them experience in the
16 working world, improve their career choices, and
17 provide opportunities for local employers to network
18 with the future workforce; and
- 19 (5) Improve the quality of teaching in science,
20 technology, engineering, and mathematics at Hawaii's
21 public schools by providing professional development
22 opportunities for practicing teachers, as well as



1 attracting to the teaching profession highly qualified
2 individuals who hold degrees in these subject areas.

3 PART II

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

7 "§302A- Career and technical education program. The
8 department shall establish and administer a career and technical
9 education program that shall meet the requirements of the
10 federal Perkins Act of 2006. The department's program may
11 include:

12 (1) Pathway programs of study, including but not limited
13 to natural resources, graphic design, computer
14 networking, and management information systems;

15 (2) Academies for various focuses of study, including the
16 performing arts, travel, and science, technology,
17 engineering, and mathematics;

18 (3) An agriculture education program;

19 (4) Specialized programs, including project EAST
20 (environmental and spatial technology); and

21 (5) Other school activities, including robotics.



1 The department's program may be offered jointly by or in
2 partnership between the department, the University of Hawaii,
3 including its community colleges, or other public or private
4 entities.

5 PART III

6 SECTION 3. Section 302A-431.7, Hawaii Revised Statutes, is
7 amended to read as follows:

8 " ~~[f] §302A-431.7 [f]—Vocational agriculture]~~ Agriculture

9 education program. (a) The department shall establish and
10 administer a ~~[vocational]~~ comprehensive agriculture education
11 program~~[+]~~ aligned with the natural resources career pathway.

12 The agriculture education program shall include adequate
13 staffing of individuals trained or experienced in the field of
14 ~~[vocational]~~ agriculture to coordinate the program and to
15 provide assistance to school ~~[districts]~~ complexes for the
16 coordination of the activities of related student ~~[agricultural]~~
17 organizations and associations.

18 (b) The ~~[vocational]~~ agriculture education program shall
19 be administered by a director who shall:

20 (1) ~~[Assess]~~ Assist in assessing the agricultural needs of
21 the ~~[State]~~ state and devise methods of meeting those



- 1 needs with the [~~veational~~] agriculture education
2 program;
- 3 (2) Assist school districts in establishing [~~veational~~]
4 agriculture education programs;
- 5 (3) Review school district applications for approval of
6 [~~veational~~] agriculture education programs;
- 7 (4) Evaluate existing programs[+] and design complementary
8 programs;
- 9 (5) Plan research and studies for the improvement of
10 curriculum materials for specialty areas of
11 [~~veational~~] agriculture[+], including aquaculture and
12 incumbent worker training;
- 13 (6) Ensure that the standards and criteria developed under
14 this section satisfy the mandates of federally-
15 assisted [~~veational~~] career and technical education;
- 16 (7) Develop in-service programs for teachers and
17 administrators of [~~veational~~] agriculture[+]
18 education programs;
- 19 (8) Review applications for [~~veational~~] agriculture
20 teacher certification;
- 21 (9) Assist in teacher recruitment and placement in
22 [~~veational~~] agriculture education programs;



- 1 (10) Serve as a liaison with the Future Farmers of America,
2 representatives of business, industry, appropriate
3 public agencies, and institutions of higher education,
4 including the Hawaii Farm Bureau Federation, to
5 facilitate dissemination of information;
- 6 (11) Promote improvement of [~~veational~~] agriculture
7 education programs; and
- 8 (12) Assist in the development of adult [~~and~~], continuing
9 education, and college-level education programs in
10 [~~veational~~] agriculture[~~7~~]
- 11 [~~(13) Establish an advisory task force of agriculturists,~~
12 ~~who represent the diverse areas of the agricultural~~
13 ~~industry in the State, that shall make annual~~
14 ~~recommendations on the development of curriculum,~~
15 ~~staffing, and strategies to establish a source of~~
16 ~~trained and qualified individuals in agriculture and~~
17 ~~strategies for developing the state program in~~
18 ~~veational agriculture education, including youth~~
19 ~~leadership throughout the public schools].~~
- 20 (c) The agriculture education program shall coordinate
21 with culinary arts programs to teach students healthy eating
22 habits and encourage culinary arts, farming, diversified



1 agriculture, and related fields such as market development and
2 science and technology, as career options. The department of
3 agriculture shall assist the department with the implementation
4 of this program.

5 [~~e~~] (d) The department may adopt rules pursuant to
6 chapter 91 to effectuate this section.

7 (e) For purposes of this section, "agriculture" or
8 "agricultural" includes the fields of farming, diversified
9 agriculture, landscaping, aquaculture, and related industries
10 such as market development and science and technology."

11 SECTION 4. The department of education shall consult with
12 the department of agriculture and the University of Hawaii's
13 college of tropical agriculture and human resources and college
14 of education in the development and implementation of the
15 agriculture education program established under this Act.

16 SECTION 5. The department of education shall submit a
17 report to the legislature regarding:

- 18 (1) Its activities toward implementation of the
19 agriculture education program;
- 20 (2) Its coordination between the agriculture education and
21 culinary arts programs; and



1 department of education, at two public schools. The purpose of
2 the pilot program shall be to establish science, technology,
3 engineering, and mathematics academies, which may include an
4 applied learning focus, at the public schools and to add
5 resources and support to the department of education to increase
6 the readiness and motivation of Hawaii high school graduates to
7 pursue post-secondary training and career options in science,
8 technology, engineering, and mathematics disciplines.

9 SECTION 8. Kauai community college, in collaboration with
10 the department of education, shall submit reports to the
11 legislature as follows:

- 12 (1) A progress report on its plans for the pilot program,
13 no later than twenty days prior to the convening of
14 the regular session of 2008;
- 15 (2) A progress report on its implementation of the pilot
16 program, no later than twenty days prior to the
17 convening of the regular session of 2009; and
- 18 (3) A final report on the pilot program, including
19 associated costs and any recommendations for the
20 expansion of the academies to other public schools, no
21 later than twenty days prior to the convening of the
22 regular session of 2010.



1 SECTION 9. There is appropriated out of the general
2 revenues of the State of Hawaii the sum of \$261,020 or so much
3 thereof as may be necessary for fiscal year 2007-2008 and the
4 same sum or so much thereof as may be necessary for fiscal year
5 2008-2009 to establish the Hawaii excellence through science and
6 technology academy pilot program, including three positions
7 within Kauai community college.

8 The sums appropriated shall be expended by Kauai community
9 college for the purposes of this part.

10 SECTION 10. There is appropriated out of the general
11 revenues of the State of Hawaii the sum of \$26,730 or so much
12 thereof as may be necessary for fiscal year 2007-2008 and the
13 same sum or so much thereof as may be necessary for fiscal year
14 2008-2009 for a position within the department of education to
15 collaborate with Kauai community college to establish the Hawaii
16 excellence through science and technology academy pilot program.

17 The sums appropriated shall be expended by the department
18 of education for the purposes of this part.

19 PART V

20 SECTION 11. Chapter 304A, Hawaii Revised Statutes, is
21 amended by adding three new sections to be appropriately
22 designated and to read as follows:



1 "§304A-A Fostering inspiration and relevance through
2 science and technology pre-academy program; established. (a)
3 There is established within the University of Hawaii, the
4 fostering inspiration and relevance through science and
5 technology pre-academy program, which shall be administered by
6 the University of Hawaii college of engineering. The mission of
7 the fostering inspiration and relevance through science and
8 technology pre-academy program shall be, with respect to middle
9 schools, to provide additional resources and expertise for the
10 department of education to stimulate the interest and
11 achievement of students in science, technology, engineering, and
12 mathematics skills.

13 To achieve its mission, the fostering inspiration and
14 relevance through science and technology pre-academy program
15 shall house and provide direction for the robotics and problem-
16 based, applied learning program under section 304A-B and the
17 research experiences for teachers program under section 304A-C.

18 (b) The goals of the pre-academy program shall be to:
19 (1) Serve students between fourth and eighth grades, with
20 problem-based, applied learning experiences in
21 science, technology, engineering, and mathematics-



1 related skills in a manner that complements the
2 academic program at public high schools; and

3 (2) Motivate and engage students in science, technology,
4 engineering, and mathematics programs.

5 (c) The pre-academy program shall encourage partnerships
6 with other relevant programs within the University of Hawaii
7 system, department of education, project EAST (environmental and
8 spatial technology) program, and appropriate public and private
9 agencies, to establish a program of problem-based, applied
10 learning for elementary and middle school students in science,
11 technology, engineering, and mathematics disciplines. School
12 participation in the fostering inspiration and relevance through
13 science and technology pre-academy programs shall be voluntary.

14 (d) The fostering inspiration and relevance through
15 science and technology pre-academy program shall support
16 development of additional problem-based, applied learning
17 projects and summer science, technology, engineering, and
18 mathematics programs for middle school teachers. For additional
19 problem-based, applied learning projects, priority shall be
20 determined in collaboration with participating teachers. Areas
21 may include global positioning system technology, ocean science,
22 astronomy, earth science and wireless communications technology,



1 conservation biology, and other science, technology,
2 engineering, and mathematics skills-stimulating subjects as
3 appropriate.

4 (e) The fostering inspiration and relevance through
5 science and technology pre-academy program shall develop program
6 evaluation measures to ensure that all programs conducted under
7 the pre-academy program are contributing to the advancement of
8 science, technology, engineering, and mathematics academics in
9 the elementary and middle schools through research.

10 §304A-B Robotics and problem-based, applied learning
11 program; established. (a) There is established within the
12 University of Hawaii the robotics and problem-based, applied
13 learning program, which shall be administered by the University
14 of Hawaii college of engineering. The mission of the robotics
15 and problem-based, applied learning program shall be to develop
16 science, technology, engineering, and mathematics skills among
17 students in the fostering inspiration and relevance through
18 science and technology pre-academy program through robotics- and
19 problem-based, applied learning projects and competitions. The
20 robotics and problem-based, applied learning program shall work
21 with existing programs to expand and strengthen activities,
22 including but not limited to National Aeronautics and Space



1 Administration explorer schools; fostering inspiration and
2 relevance through science and technology robotics, lego league,
3 and vex challenges or competitions; botball educational robotics
4 programs; and underwater robotics challenges.

5 (b) The robotics and problem-based, applied learning
6 program shall coordinate and cooperate with the fostering
7 inspiration and relevance through science and technology pre-
8 academy program in establishing an integrated system of science,
9 technology, engineering, and math-related, problem-based,
10 applied learning programs under the administration of the pre-
11 academy program. The robotics and problem-based, applied
12 learning program shall enlist, encourage, train, and support
13 volunteer teachers and other mentors to conduct robotics and
14 space-related programs at the school level.

15 §304A-C Research experiences for teachers program;
16 established. (a) There is established within the University of
17 Hawaii the research experiences for teachers program, which
18 shall be administered by the University of Hawaii college of
19 engineering. The purpose of the research experiences for
20 teachers program shall be to support the development of middle
21 school teacher skills and knowledge, and the development of
22 middle school curriculum materials in science, technology,



1 engineering, and mathematics subject areas, with a focus on
2 wireless communications.

3 (b) The research experiences for teachers program shall:

4 (1) Educate teachers in the advances in technology in
5 wireless communications and engineering;

6 (2) Enhance teacher research skills through the use of
7 software and innovative uses of equipment;

8 (3) Provide teacher participants with hands-on research
9 experiences;

10 (4) Support teachers in developing classroom lessons and
11 program activities that meet their course objectives
12 and student performance standards; and

13 (5) Provide opportunities to share and collaborate with
14 other teacher participants to ensure successful
15 implementation of curricula and programs.

16 (c) Specific activities of the research experiences for
17 teachers program shall include:

18 (1) Providing on-site lectures, demonstrations, and
19 laboratory tours at the University of Hawaii and
20 middle schools;

21 (2) Reviewing wireless communications concepts, methods,
22 history, and applications;



- 1 (3) Reviewing engineering and relevant science concepts,
- 2 research methodology, and real-world applications;
- 3 (4) Reviewing key components of inquiry-based teaching
- 4 materials;
- 5 (5) Providing teachers with technical content support;
- 6 (6) Assisting teachers in adapting state-of-the-art
- 7 engineering research into a meaningful classroom
- 8 experience for students;
- 9 (7) Providing seminars to transfer relevant information
- 10 and experiences among teacher participants and
- 11 sponsors;
- 12 (8) Providing summer engineering workshop for teachers;
- 13 and
- 14 (9) Maintaining a website for content and program
- 15 dissemination."

16 SECTION 12. There is appropriated out of general revenues
 17 of the State of Hawaii the sum of \$1,402,230 or so much thereof
 18 as may be necessary for fiscal year 2007-2008 and the same sum
 19 or so much thereof as may be necessary for fiscal year 2008-2009
 20 to establish the fostering inspiration and relevance through
 21 science and technology pre-academy program, including nine full-
 22 time equivalent (9.00 FTE) positions in the University of Hawaii



1 college of engineering; provided that the sums appropriated
2 shall be allocated as follows:

- 3 (1) \$314,925 for fiscal year 2007-2008 and the same sum
4 for fiscal year 2008-2009 for the robotics and
5 problem-based, applied learning program; and
6 (2) \$734,805 for fiscal year 2007-2008 and the same sum
7 for fiscal year 2008-2009 for the research experiences
8 for teachers program.

9 The sums appropriated shall be expended by the University
10 of Hawaii for the purposes of this part.

11 PART VI

12 SECTION 13. (a) There is established within the
13 department of business, economic development, and tourism, the
14 business/education internship and mentorship program. The
15 purpose of this program is to establish, with the cooperation of
16 educational institutions, internship, mentorship, and other
17 experiential learning arrangements within the business,
18 nonprofit, and government sectors, for Hawaii high school
19 students and Hawaii high school graduates attending college in
20 Hawaii or elsewhere. The goals of this program shall be to
21 provide Hawaii students with experience in the working world to
22 improve their career choices and to provide opportunities for



1 Hawaii employers to establish relationships with students who
2 represent an essential source of skills for Hawaii's future
3 economic growth and prosperity.

4 (b) The department of business, economic development, and
5 tourism shall coordinate with the department of education and
6 may contract with appropriate government, nonprofit, or for-
7 profit entities to accomplish the purpose and goals of this
8 program.

9 (c) The department of business, economic development, and
10 tourism shall submit a report to the legislature, no later than
11 twenty days prior to the convening of the regular session of
12 2009, on its implementation of the business/education internship
13 and mentorship program.

14 SECTION 14. There is appropriated out of the general
15 revenues of the State of Hawaii the sum of \$110,000 or so much
16 thereof as may be necessary for fiscal year 2007-2008 and the
17 same sum or so much thereof as may be necessary for fiscal year
18 2008-2009 for the business/education internship and mentorship
19 program.

20 The sums appropriated shall be expended by the department
21 of business, economic development, and tourism for the purposes
22 of this part.



PART VII

SECTION 15. (a) There is established within the University of Hawaii a professional development program to provide practicing elementary, middle, and high school science and mathematics teachers with opportunities to increase their knowledge and understanding of recent developments in science, technology, engineering, and mathematics. The professional development program shall be administered by the University of Hawaii college of education and shall be open to both certificated and non-certificated teachers. Design of the professional development program shall include evaluation of best practices in other school jurisdictions.

(b) Recognizing that the year-round public school calendar has shortened the summer period, that not all schools are on the same academic calendar, and that programs throughout the year, offered in a variety of formats, would facilitate immediate implementation in the classroom, the professional development program shall provide a variety of options designed to meet the specific needs of Hawaii's teachers, which may include summer institutes, a combination of summer, after school, or weekend institutes, distance learning through video conferencing or other mechanisms, neighbor island locations, or other options.



1 (c) The University of Hawaii college of education shall
2 submit a report to the legislature, no later than twenty days
3 prior to the convening of the regular session of 2009, on its
4 implementation of the professional development program in the
5 science, technology, engineering, and mathematics disciplines
6 for teachers, including the number of teachers who have
7 participated in the program.

8 SECTION 16. There is appropriated out of the general
9 revenues of the State of Hawaii the sum of \$175,000 or so much
10 thereof as may be necessary for fiscal year 2007-2008 and the
11 same sum or so much thereof as may be necessary for fiscal year
12 2008-2009 for the development of professional development
13 programs in the science, technology, engineering, and
14 mathematics disciplines for practicing teachers.

15 The sums appropriated shall be expended by the University
16 of Hawaii for the purposes of this part.



1 PART VIII

2 SECTION 17. The legislature finds that there is a chronic
3 shortage of science and mathematics teachers. The recruitment
4 of potential science, technology, engineering, and mathematics
5 teachers for post baccalaureate certificate programs is
6 difficult, but providing the incentive of stipends for
7 individuals to participate in such programs has proven to be
8 effective.

9 The federal Transition To Teaching program is a successful
10 recruitment program that provides stipends as incentives for
11 people who hold degrees in science, technology, engineering, and
12 mathematics subjects to obtain their teaching certificates
13 through the University of Hawaii's post baccalaureate
14 certificate in secondary education program. The program has
15 resulted in ninety new qualified mathematics and science
16 teachers since it began four-and-a-half years ago.

17 The program is currently funded under the United States
18 Department of Education's Transition To Teaching program, but
19 the University of Hawaii's transition to teaching grant will
20 expire in 2008. The purpose of this part is to appropriate
21 funds to allow the program to continue.



1 SECTION 18. The University of Hawaii shall submit a report
2 to the legislature, no later than twenty days prior to the
3 convening of the regular session of 2009, on the status of the
4 transition to teaching program, including the number of
5 individuals who have participated in and completed the program.

6 SECTION 19. There is appropriated out of the general
7 revenues of the State of Hawaii the sum of \$175,000 or so much
8 thereof as may be necessary for fiscal year 2007-2008 and the
9 same sum or so much thereof as may be necessary for fiscal year
10 2008-2009 for the transition to teaching program to provide
11 stipends to attract science, technology, engineering, and
12 mathematics graduates to the University of Hawaii post
13 baccalaureate certificate in secondary education program.

14 The sums appropriated shall be expended by the University
15 of Hawaii for the purposes of this part.

16 PART IX

17 SECTION 20. Statutory material to be repealed is bracketed
18 and stricken. New statutory material is underscored.

19 SECTION 21. This Act shall take effect on July 1, 2007.



Report Title:

Career and Technical Education; Educational Initiatives

Description:

Establishes the Career and Technical Education Program within the Department of Education. Expands the scope of the Agriculture Education Program in the public schools and requires its coordination with culinary arts programs. Establishes the Hawaii Excellence Through Science and Technology Academy Pilot Program. Establishes the Fostering Inspiration and Relevance Through Science and Technology Pre-Academy Program. Establishes the Robotics and Problem-Based, Applied Learning Program. Establishes the Research Experiences for Teachers Program. Establishes a professional development program to provide practicing public elementary, middle, and high school science and mathematics teachers with opportunities to increase their knowledge and understanding of recent developments in science, technology, and mathematics. Establishes the Business/Education Internship and Mentorship Program. Provides stipends as incentives for people who hold degrees in science, technology, engineering, and mathematics subjects to obtain teaching certificates through the University of Hawaii's post baccalaureate certificate in secondary education program. Appropriates funds. (SB885 CD1)

