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# A BILL FOR AN ACT

MAKING AN APPROPRIATION TO ESTABLISH CREATIVITY ACADEMIES.

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

1           SECTION 1. The legislature finds that Hawaii's economic  
2 policies have been continuously focused on developing human and  
3 economic resources by creating and developing innovation  
4 capacity. Studies reveal that Hawaii students experience a  
5 sharp decline in math skills particularly after the sixth grade,  
6 signaling a need to find new ways to engage Hawaii's students in  
7 the core skills needed to succeed in the 21st century. A major  
8 challenge in Hawaii's education system is in providing an  
9 adequate number of high school graduates with the skills related  
10 to basic science, technology, engineering, and mathematics that  
11 are needed to allow them to be adequately prepared for  
12 engineering or science programs at either a community college or  
13 four-year college.

14           In fact, according to the National Center for Public Policy  
15 and Higher Education, only 18 per cent of Hawaii's eighth  
16 graders test proficient in mathematics, compared with 38 per  
17 cent among top states in the United States.



1           The Americans for the Arts, a national nonprofit  
2 organization supporting arts education, reports that for the  
3 United States to maintain and expand its economy, America's  
4 schools must encourage more students to pursue careers in  
5 science, technology, engineering, and mathematics, and must  
6 better prepare all students in the science, technology,  
7 engineering, and mathematics content areas. National studies  
8 are showing that adding a creative arts component to science,  
9 technology, engineering, and mathematics education significantly  
10 enhances the learning outcomes.

11           In a paper titled "How do you turn STEM into STEAM? Add  
12 the arts!" published in October 2007, Joan Platz, information  
13 coordinator for the Ohio Alliance for Arts Education, states  
14 that "Ohio lawmakers are also concerned about STEM preparation  
15 and participation. Music and the arts are essential educational  
16 components for all students to learn, including students who are  
17 pursuing careers in the STEM areas. Educational opportunities  
18 in music and the arts first and foremost prepare students for  
19 competitive careers in the \$316,000,000,000 communication,  
20 entertainment, and technology industries as musicians, artists,  
21 dancers, actors, directors, choreographers, videographers,  
22 graphic designers, architects, photographers, designers, film



1 makers, arts administrators, and other professions. The growth  
2 of the visual technologies alone, from computer graphics to  
3 digital video, has had a tremendous impact on our nation's  
4 economy and the global economy."

5 According to "The Creative Industries" report, published by  
6 Americans for the Arts, more than 548,000 businesses nationwide  
7 are related to the arts and employ 2,990,000 people. In 2005,  
8 the research and economic analysis division of the department of  
9 business, economic development, and tourism reported that 28,884  
10 people in Hawaii were employed in creative industries. Many of  
11 these arts-related jobs require employees to understand and  
12 apply higher order concepts in the science, technology,  
13 engineering, and mathematics content areas in addition to having  
14 a preparation in the arts. The knowledge, skills, attitudes,  
15 and behaviors students acquire from studying the arts have been  
16 identified by the Partnership for 21st Century Skills, and other  
17 organizations, as the skills needed to be successful in the  
18 global economy. These skills include creativity and innovation,  
19 critical thinking and problem solving, communication and  
20 collaboration, flexibility and adaptability, and social and  
21 cross-cultural skills.



1           The introduction of a classroom-based innovative curriculum  
2 through creative exploration provides a way to capture the  
3 interest of and help Hawaii's students develop new approaches to  
4 problem solving, while developing the skills necessary to  
5 compete in the 21st century global marketplace through the  
6 integration of new media arts and science, technology,  
7 engineering, and mathematics content and processes.

8           The creativity academies seek to integrate the teaching,  
9 learning and use of science, technology, engineering,  
10 mathematics, and new media arts-related skills throughout  
11 Hawaii's education system by:

- 12           (1) Locally developing a turnkey creativity academies  
13 curriculum that is responsive to the educational and  
14 workforce development needs of Hawaii;
- 15           (2) Pilot-testing this turnkey curriculum for the  
16 University of Hawaii, community colleges, and the  
17 department of education systems at Kapiolani Community  
18 College and a neighbor island community college  
19 involving area high school students in the first year  
20 of the program;
- 21           (3) Developing and pilot-testing "teacher training program  
22 activities";



1 (4) Establishing an after-school program for middle school  
2 students in animation, game development, and creative  
3 publishing; and

4 (5) Establishing an after-school program for at-risk youth  
5 in animation, game development, and creative  
6 publishing.

7 The creativity academies will build on the best and  
8 promising practices of other similar innovative programs. For  
9 example, since 2002, the California Institute of the Arts  
10 "ArtsCOOL" program, developed in partnership with the Los  
11 Angeles unified school district arts education branch, has  
12 engaged students blending arts and sciences with great success.  
13 The program offers 30 weeks of courses in digital media,  
14 animation, and visual arts to 20 participating high schools in  
15 the Los Angeles unified school district. In addition, two pilot  
16 after-school programs in creativity, created by Ulua Media, LLC,  
17 were conducted at Iolani School and Niu Valley middle schools.  
18 These programs maintained a consistently high level of  
19 enrollment. Finally, the academy concept used by Kapiolani  
20 community college for the past two years in its summer science,  
21 technology, engineering, and mathematics program, bringing high  
22 school juniors and seniors to its campus, and involving them in



1 creative, contextual learning in science, technology,  
2 engineering, and mathematics, and new media arts related  
3 projects, has been shown to be highly successful in recruiting  
4 students into science, technology, engineering, and mathematics-  
5 related college majors.

6 The legislature further finds that the State's  
7 administration and lawmakers have recognized the need for the  
8 integration of creative cognitive, affective, and psychomotor  
9 processes in the classroom by supporting the establishment of  
10 programs such as project East, the establishment of science,  
11 technology, engineering, and mathematics programs statewide, and  
12 the academy model of Hawaii excellence through science and  
13 technology. These programs provide a framework to integrate new  
14 skill set development in the areas of creativity and innovation-  
15 both critical components to advanced problem solving,  
16 collaboration, and creative solutions to the challenges that  
17 face future generations.

18 To engage, ignite, and sustain the interest of students in  
19 the core skills needed to gain the basic knowledge and skills  
20 necessary for the 21st century workforce, the creativity  
21 academies will infuse science, technology, engineering, and  
22 mathematics course curriculum with animation, game development,



1 digital media, and creative publishing projects, blending art  
2 and science into a comprehensive lesson plan.

3 In line with the department of education's core curriculum  
4 standards, the creativity academies will offer middle and high  
5 school students statewide an opportunity to expand their  
6 science, technology, engineering, and mathematics education.

7 The creativity academies fill the gap in arts and sciences  
8 education by introducing a program that meets the department of  
9 education's high school standards in an effort to move more  
10 students into and through the community college and four-year  
11 university system. As a logical progression to the effective  
12 "arts first" program in kindergarten through age six that  
13 provides an arts education tool kit for teachers, the creativity  
14 academies will introduce students ages seven through 16 to the  
15 relationship between arts and the sciences through a contextual  
16 approach. Participating high schools, as well as students in  
17 after-school programs, including a component for at-risk youth,  
18 will receive hands-on training through project-based learning in  
19 the arts and sciences that will:

- 20 (1) Foster creativity, innovation, and entrepreneurship;  
21 (2) Develop skill sets for creative problem solving at all  
22 stages of education;



- 1 (3) Support department of education framework to graduate  
2 students in the areas of math and science;
- 3 (4) Offer a contextual approach to science, technology,  
4 engineering, and mathematics learning through creative  
5 engagement;
- 6 (5) Provide an integrated program from kindergarten  
7 through age 16 to job market;
- 8 (6) Provide articulated curriculum in creative media and  
9 arts within University of Hawaii community colleges  
10 and the University of Hawaii system and with the  
11 department of education; and
- 12 (7) Create science, technology, engineering, mathematics,  
13 and creativity programs for under-represented  
14 students.

15 The creativity academies will develop and implement the  
16 framework and course study for the system-wide program using in-  
17 class and web-based programs. As with the Hawaii excellence  
18 through science and technology academy, school participation  
19 will be voluntary. The pilot program for high school students  
20 will be spearheaded by the University of Hawaii, Kapiolani  
21 community college's science, technology, engineering, and  
22 mathematics program and new media arts and the department of





1 education, and supported by local industry experts in education,  
2 new media, science, and engineering. The curriculum will expand  
3 on the existing Hawaii excellence through science and technology  
4 structure and include an integrated, project-based learning  
5 environment providing:

6 (1) Courses in animation, game development, creative  
7 publishing or science, technology, engineering, and  
8 mathematics disciplines for 100 high school students  
9 per participating community college (juniors or  
10 seniors);

11 (2) A turnkey pilot digital animation media arts program  
12 developed in Hawaii, using courses such as the  
13 existing art 112, "introduction to digital art", and  
14 grounded in the standards based curriculum  
15 methodology;

16 (3) A "train-the-teachers" summer boot-camp program to  
17 educate high school teachers in digital media  
18 integration with science, technology, engineering, and  
19 mathematics curriculum; and

20 (4) Courses in animation, game development, and creative  
21 publishing for 300 middle school students in an after-  
22 school program.



1           The creativity academies will have both educational  
2 components and student requirements. The educational components  
3 shall be as follows:

4           (1) High school juniors and seniors will receive in-  
5 classroom training based on Hawaii excellence through  
6 science and technology guidelines, integrating the  
7 creative use of technology with the creative inquiry,  
8 problem solving, and critical thinking processes of  
9 the science, technology, engineering, and mathematics  
10 disciplines, and will receive dual credit, for  
11 example, both high school and college credit;

12           (2) A digital media production center incubator housed at  
13 Kapiolani community college will afford college  
14 students the opportunity to develop skills for a new  
15 media arts career pathway or integrate new media arts  
16 knowledge, skills, and abilities into other science,  
17 technology, engineering, and mathematics areas and  
18 into other fields, such as hospitality and culinary  
19 arts, business, health sciences, and the liberal arts.  
20 The facility will be retrofitted into an existing  
21 building on campus; and



1 (3) There will be middle school and elementary school  
2 after-school enrichment programs for the department of  
3 education and rural, under-represented, or at-risk  
4 youth in animation, game development, and writing or  
5 publishing, and integration of science, technology,  
6 engineering, and mathematics disciplines.

7 The student requirements of the creativity academies shall  
8 be as follows:

9 (1) All high school students must maintain a "C+" grade in  
10 all classes with an overall 2.5 grade point average;

11 (2) All high school students must take at least one math  
12 class and one science class or digital arts class in  
13 their junior and senior year;

14 (3) All creativity academies students must participate in  
15 a science, technology, engineering, and mathematics or  
16 new media arts project competition; and

17 (4) Middle and elementary after-school programs have no  
18 requirements.

19 Within the first year, the program will train high school  
20 and middle school teachers in the creative disciplines, provide  
21 in-classroom support via Kapiolani community college's new media  
22 arts, and University of Hawaii's academy for creative media



1 students interested in the creativity academies to team teach  
2 animation, game design, and digital media with industry  
3 professionals in feeder high schools and after-school middle  
4 school enrichment programs. This activity will provide a  
5 workforce development component for graduates and students in  
6 these programs. By 2009-2010, high school and college students  
7 in the program will have employment opportunities at the digital  
8 media production center incubator, as well as mentorship  
9 opportunities with animation and game development companies as a  
10 result of the partnerships developed in the implementation of  
11 the overall creativity academies. The creativity academies are  
12 conceived to develop a new avenue to facilitate and increase the  
13 number of transfers into the University of Hawaii community  
14 colleges and the University of Hawaii systems, thereby meeting  
15 the department of education's goal of increasing the number of  
16 students graduating from high school and entering into  
17 university study in science, technology, engineering, and  
18 mathematics core disciplines. The creativity academies will  
19 also provide improved preparation for high school students to  
20 increase their success in college, in addition to spurring  
21 innovation-based economic diversification opportunities for the  
22 students and residents of the State of Hawaii.



1           SECTION 2. There is appropriated out of the general  
2 revenues of the State of Hawaii the sum of \$           or so much  
3 thereof as may be necessary for fiscal year           to carry out  
4 the purposes of this Act, including equipment, training, the  
5 hiring of instructors, and marketing for the creative or  
6 production center incubator and for the development of a turnkey  
7 digital media program that can be replicated for use in the  
8 University of Hawaii community colleges.

9           The sum appropriated shall be expended by the department of  
10 business, economic development, and tourism for the purposes of  
11 this Act.

12           SECTION 3. This Act shall take effect on July 1, 2025.



**Report Title:**

Economic Development; Creativity Academies

**Description:**

Appropriates funds to support the development of the creativity academy program, including a turnkey digital media program.  
(HB2587 HD1)

