

House District(s) 5

Senate District(s) 3

THE TWENTY-NINTH LEGISLATURE
APPLICATION FOR GRANTS
CHAPTER 42F, HAWAII REVISED STATUTES

Log No:

For Legislature's Use Only

Type of Grant Request:

XX GRANT REQUEST - OPERATING

GRANT REQUEST - CAPITAL

"Grant" means an award of state funds by the legislature, by an appropriation to a specified recipient, to support the activities of the recipient and permit the community to benefit from those activities.

"Recipient" means any organization or person receiving a grant.

STATE DEPARTMENT OR AGENCY RELATED TO THIS REQUEST (LEAVE BLANK IF UNKNOWN): DEPARTMENT OF EDUCATION

STATE PROGRAM I.D. NO. (LEAVE BLANK IF UNKNOWN): _____

1. APPLICANT INFORMATION:

Legal Name of Requesting Organization or Individual:
Konawaena High School Wildcat Robotics

Street Address:

81-1043 Konawaena School Rd,
Kealahou Hawaii, 96750

Mailing Address: Same as above

2. CONTACT PERSON FOR MATTERS INVOLVING THIS APPLICATION:

Name CRAIG FULLER

Title Secondary Teacher

Phone # 808-313-6000

Fax # 808-323-4515

E-mail cfuller@konawaenahigh.k12.hi.us

3. TYPE OF BUSINESS ENTITY:

- NON PROFIT CORPORATION INCORPORATED IN HAWAII
- FOR PROFIT CORPORATION INCORPORATED IN HAWAII
- LIMITED LIABILITY COMPANY
- SOLE PROPRIETORSHIP/INDIVIDUAL
- OTHER

Co-Curricular Public High School Program

6. DESCRIPTIVE TITLE OF APPLICANT'S REQUEST:

HIGH SCHOOL ROBOTICS EQUIPMENT, ACCESSORIES, APPURTENANCES, AND COMPETITION EVENT TRAVEL SUPPORTING LONG-TERM CAPACITY BUILDING OF THE KONAWAENA HIGH SCHOOL CAREER TECHNICAL EDUCATION PROGRAM.

4. FEDERAL TAX ID #: N/A

5. STATE TAX ID #: N/A

7. AMOUNT OF STATE FUNDS REQUESTED:

FISCAL YEAR 2019: \$ 75,000

8. STATUS OF SERVICE DESCRIBED IN THIS REQUEST:

- NEW SERVICE (PRESENTLY DOES NOT EXIST)
- EXISTING SERVICE (PRESENTLY IN OPERATION)

SPECIFY THE AMOUNT BY SOURCES OF FUNDS AVAILABLE AT THE TIME OF THIS REQUEST:

STATE \$ 15,000

FEDERAL \$ _____

COUNTY \$ 5,000

PRIVATE/OTHER \$ _____

CRAIG Fuller Teacher
NAME & TITLE

1/7/18
DATE SIGNED

Application for Grants

Please check the box when item/section has been completed. If any item is not applicable to the request, the applicant should enter "not applicable".

I. Background and Summary

This section shall clearly and concisely summarize and highlight the contents of the request in such a way as to provide the State Legislature with a broad understanding of the request. Please include the following:

1. A brief description of the applicant's background;
The Konawaena High School Wildcat Robotics Team is a component of the high school's larger Career Technical Education (CTE) program. As participants in fast-growing statewide STEM education trends around coding, robotics, CAD, CNC, and 3-D printing, KHS Wildcat Robotics offers students a hands-on platform for learning about career opportunities spanning science, technology, engineering and math. For the past several years, Wildcat Robotics has participated in VEX competitions, as well as in FIRST robotics competitions as Team 3878 since 2011. Beyond science and engineering principles, these competitions encourage teamwork, leadership and problem solving among and between groups of young people, including collegial collaboration with other teams. It also allows educators and mentors to offer real world, competitive projects to meet many levels of students' abilities. Recently, KHS alumnus Mike Rasay ('96), a research associate at Silicon Valley's Santa Clara University, initiated a partnership with Wildcat Robotics. He has offered technical guidance on equipment, and offered many insights into new directions in robotics, CAD, CNC, and 3-D Printing.

About Konawaena High School:

Konawaena High School was established in 1921, and is located on the slopes of Mauna Loa. In addition to core classes, the school offers a variety of career pathways, fine arts programs, JROTC, and robotics. Enrollment in the mid-1990s reached nearly 2,300, but with the 1997 opening of Kealahou High School, dwindled to about 600 in the early 2000s. Enrollment has recently increased due to growing community interest in the successes of KHS's various programs, including its CTE program.

Esteemed KHS alumni include Space Shuttle Challenger Astronaut Col. Ellison Onizuka, Medal of Honor recipient Sgt. Rodney Yano, and labor activist Koji Ariyoshi.

2. The goals and objectives related to the request;
Wildcat Robotics seeks to offer students challenging, real-world learning experiences that are aligned with current trends in STEM. With a limited budget, even reasonably priced equipment is often out of reach, especially with rapid technological advances. For example, a 2010 3-D printer cost about \$15,000, and were fairly good. Today, printers of excellent quality are available for under \$1,000. However, Computer Aided Design (CAD) and Computer Numerical Control (CNC) have moved fabrication mills and

equipment into a much wider array of applications well beyond the plastic filaments used by 3-D Printers. Concept designs, programming, and fabricating using metals, wood, composite materials, as well as plastic, would open up almost limitless opportunities for students to innovate and create not just robotics components, but also explore prosthetics, bioprinting, industrial arts, and real-world engineering. The goals and objectives of Wildcat Robotics extend beyond VEX and FIRST competitions, and seek to offer students meaningful and lasting experiences in coding, and high tech fabrication. Such an upgrade in capacity will also help to level the playing field for students living in rural areas who tend to have fewer opportunities to experience high tech tools, national and global competition, and opportunities to collaborate with mentors in STEM careers. A main goal of the Wildcat Robotics team is to expose students not only to opportunities to work with high level technologies, but also to encourage them to interact with mentors in actual college labs performing cutting edge work in the field. Such opportunities are few and far between due to the rural nature of the Konawaena community.

3. xx The public purpose and need to be served;
As a school with high Free and Reduced Lunch percentages, as well as a largely rural population base, the KHS programs focused around Career and Technical Education are essential for students to have solid and foundational educational experiences that will assist them in choosing the best career pathway going forward. Educational opportunities are usually more abundant in urban settings, so offering comparable opportunities in rural areas serves as an equalizing influence. Wildcat Robotics allows students opportunities to experience state-of-the-art technology, compete against other likeminded students, collaborate in teams and with mentors, and participate in real-world learning activities that align with current trends in education and STEM careers.

4. xx Describe the target population to be served; and
As stated previously, KHS serves a high FRL population. Kona has historically been a tourism and agricultural economy. KHS students, however, represent a wide array of interests, experiences, and skills reflecting our globalized economy. Recent data indicate that roughly 70% of KHS students intend to enroll in post-secondary education. In an increasingly tech savvy world, CTE and STEM education must keep up with the needs and desires of students. Since the target population of KHS students includes a majority of students interested in higher education, it is important to build capacity in STEM and CTE to allow for a level playing field between rural and urban public school students.

5. xx Describe the geographic coverage.
Konawaena High School serves a broad geographical area, with students enrolled from an area stretching 45 miles from Holualoa to Hawaiian Ocean View Estates. The student body is approximately 800 in grades 9-12.

II. Service Summary and Outcomes

The Service Summary shall include a detailed discussion of the applicant's approach to the request. The applicant shall clearly and concisely specify the results, outcomes, and measures of effectiveness from this request. The applicant shall:

1. Describe the scope of work, tasks and responsibilities;
Students have built competitive robots for VEX and FIRST competitions since 2011. There have been steady refinement of CAD and CNC technologies since then, and there has been a corresponding lag in the capabilities of the available infrastructure to the Wildcat Robotics students. Veteran KHS teacher Craig Fuller, Robotics advisor, and Mitchell Delemeester, BS Mechanical Engineering, have developed plans to build capacity in the Wildcat Robotics shop, and have relocated the team headquarters into the former Auto/Metal Shop building at KHS. With the increased space, the opportunity to upgrade outdated equipment was obvious. Students now have increased space to test robots, practice for competitions, and safely use existing CNC mill equipment. However, the CNC mill should be upgraded, and a CNC plasma cutter will greatly enhance the program capacity. Mr. Fuller will be responsible for fulfilling the grant request, with collaboration from Mr. Delemeester and the student team.
2. Provide a projected annual timeline for accomplishing the results or outcomes of the service;
Once funding is released, ordering equipment should take about 60 days. Supplies and stock purchases will be ongoing over the next school year. Competition travel will occur as the Wildcat Robotics team qualifies for an invitation, however, FIRST competitions globally are held in the second semester. Therefore, travel expenses will be incurred starting in January, 2019.
3. Describe its quality assurance and evaluation plans for the request. Specify how the applicant plans to monitor, evaluate, and improve their results; and
Students will be evaluated on their coding and products. Performance of the robot, and particularly fabricated components, will be evaluated for effect. The Wildcat Robotics Team will be evaluated on their performance in competitions by FIRST and VEX judges.
4. List the measure(s) of effectiveness that will be reported to the State agency through which grant funds are appropriated (the expending agency). The measure(s) will provide a standard and objective way for the State to assess the program's achievement or accomplishment. Please note that if the level of appropriation differs from the amount included in this application that the measure(s) of effectiveness will need to be updated and transmitted to the expending agency.
Measures of effectiveness include the purchase of actual equipment being requested, and team performance in competitions. The longevity of the equipment will also be evaluated by the Wildcat Robotics advisors.

III. Financial

Budget

1. The applicant shall submit a budget utilizing the enclosed budget forms as applicable, to detail the cost of the request.
 - a. Budget request by source of funds ([Link](#))
 - b. Personnel salaries and wages ([Link](#))
 - c. Equipment and motor vehicles ([Link](#))
 - d. Capital project details ([Link](#))
 - e. Government contracts, grants, and grants in aid ([Link](#))

2. The applicant shall provide its anticipated quarterly funding requests for the fiscal year 2019.

Quarter 1	Quarter 2	Quarter 3	Quarter 4	Total Grant
\$ 75,000				\$ 75,000

3. The applicant shall provide a listing of all other sources of funding that they are seeking for fiscal year 2019.
Wildcat Robotics is funded from the Konawaena High School CTE Program. Students generally fundraise approximately \$10,000.

4. The applicant shall provide a listing of all state and federal tax credits it has been granted within the prior three years. Additionally, the applicant shall provide a listing of all state and federal tax credits they have applied for or anticipate applying for pertaining to any capital project, if applicable. *Not applicable.*

5. The applicant shall provide a listing of all federal, state, and county government contracts, grants, and grants in aid it has been granted within the prior three years and will be receiving for fiscal year 2019 for program funding.
Not applicable.

6. The applicant shall provide the balance of its unrestricted current assets as of December 31, 2017.
\$1,500

IV. Experience and Capability

1. **Necessary Skills and Experience**

The applicant shall demonstrate that it has the necessary skills, abilities, knowledge of, and experience relating to the request. State your experience and appropriateness for providing the service proposed in this application. The applicant shall also provide a listing of verifiable

experience of related projects or contracts for the most recent three years that are pertinent to the request.

Mr. Fuller has been Wildcat Robotics Team Advisor since 2003, and the Cisco Certified Trainer for networking and technology in Konawaena High School's CTE program since 1999. And is also the school's Technology Coordinator, also starting in 1999.

Mr. Delemeester holds a BS in Mechanical Engineering, and is well-versed in coding and programming.

2. **xx Facilities**

The applicant shall provide a description of its facilities and demonstrate its adequacy in relation to the request. If facilities are not presently available, describe plans to secure facilities.

Wildcat Robotics has recently moved into the repurposed Auto Shop/Metal Shop. There is an increased availability in shop space, and the school has supported the program further by giving access to legacy equipment formerly used for machining and welding programs.

V. Personnel: Project Organization and Staffing

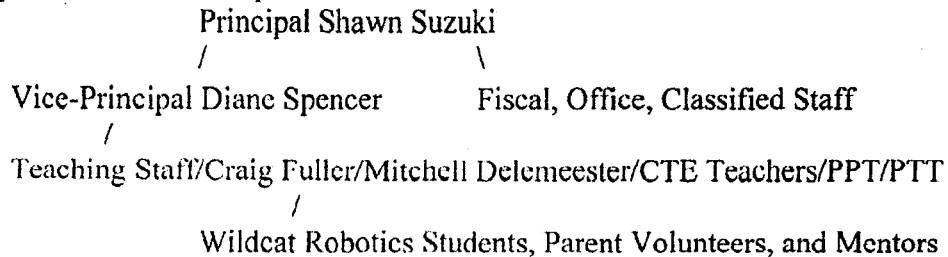
1. **xx Proposed Staffing, Staff Qualifications, Supervision and Training**

The applicant shall describe the proposed staffing pattern and proposed service capacity appropriate for the viability of the request. The applicant shall provide the qualifications and experience of personnel for the request and shall describe its ability to supervise, train and provide administrative direction relative to the request.

Craig Fuller is a veteran educator, and one of the longest serving teachers at Konawaena High School. He is also a Cisco certified trainer and the school's Technology Coordinator. Mitchell Delemeester holds a Bachelor of Science in Engineering. Richard "Mike" Rasay is a Research Associate at Santa Clara University College of Engineering, and the team mentor. He is also a Konawaena Alumnus.

2. **Organization Chart**

The applicant shall illustrate the position of each staff and line of responsibility/supervision. If the request is part of a large, multi-purpose organization, include an organization chart that illustrates the placement of this request.



3. **xx Compensation**

The applicant shall provide the annual salaries paid by the applicant to the three highest paid officers, directors, or employees of the organization by position.

Mr. Fuller's salary is \$72,000

Mr. Delemeester is compensated at \$25/hour for 19 hours/week.

VI. Other

1. **xx Litigation**

No pending litigation.

2. **xx Licensure or Accreditation**

Six-year accreditation from WASC (Western Association of Schools and Colleges) in 2017.

3. **Private Educational Institutions**

Not applicable.

4. **xx Future Sustainability Plan**

The applicant shall provide a plan for sustaining after fiscal year 2018-19 the activity funded by the grant if the grant of this application is:

(a) Received by the applicant for fiscal year 2018-19, but

(b) Not received by the applicant thereafter.

This grant request is a one-time request for assistance to upgrade equipment that will benefit students for several years going forward. As previously stated, technology is advancing rapidly, and small rural schools are at a decided disadvantage. We are also requesting support for student travel to increase capacity in students' efforts to fund raise toward the goal of competing both nationally and globally. In particular, FIRST is a highly competitive global contest, and can be a unique opportunity for students to compete on a global stage. The value of competition cannot be overstated, and for students living in rural areas, it is often a rare opportunity unless they participate in sports. The opportunity to experience academic competition is essential to building students interest in participation.

Further grant support should not be needed on an ongoing basis if this grant is awarded. The added capacity will enable the Wildcat Robotics team to create a sustainable level of effort and success, which should allow for continued program growth.

5. xx **Certificate of Good Standing (If the Applicant is an Organization)**

If the applicant is an organization, the applicant shall submit one (1) copy of a certificate of good standing from the Director of Commerce and Consumer Affairs that is dated no earlier than December 1, 2017.

Not applicable, however WASC Certificate of Accreditation is available upon request.

6. xx **Declaration Statement**

The applicant shall submit a declaration statement affirming its compliance with Section 42F-103, Hawaii Revised Statutes. ([Link](#))

7. xx **Public Purpose**

The applicant shall specify whether the grant will be used for a public purpose pursuant to Section 42F-102, Hawaii Revised Statutes. ([Link](#))

BUDGET REQUEST BY SOURCE OF FUNDS

Period: July 1, 2018 to June 30, 2019

App Konawaena High School Wildcat Robotics

BUDGET CATEGORIES	Total State Funds Requested (a)	Total Federal Funds Requested (b)	Total County Funds Requested (c)	Total Private/Other Funds Requested (d)
A. PERSONNEL COST				
1. Salaries				
2. Payroll Taxes & Assessments				
3. Fringe Benefits				
TOTAL PERSONNEL COST				
B. OTHER CURRENT EXPENSES				
1. Airfare, Inter-Island				
2. Insurance				
3. Lease/Rental of Equipment				
4. Lease/Rental of Space				
5. Staff Training				
6. Supplies	5,000			
7. Telecommunication				
8. Utilities				
9 Travel Costs for Student Competition	15,000			
10				
11				
12				
13				
14				
15				
16				
17				
18				
19				
20				
TOTAL OTHER CURRENT EXPENSES	20,000			
C. EQUIPMENT PURCHASES	55,000			
D. MOTOR VEHICLE PURCHASES				
E. CAPITAL				
TOTAL (A+B+C+D+E)	75,000			
SOURCES OF FUNDING		Budget Prepared By:		
(a) Total State Funds Requested	75,000	Craig Fuller		
(b) Total Federal Funds Requested		[REDACTED]		
(c) Total County Funds Requested		[REDACTED]		
(d) Total Private/Other Funds Requested		[REDACTED]		
TOTAL BUDGET	75,000	CRAIG FULLER Teacher Name and Title (Please type or print)		

BUDGET JUSTIFICATION - CAPITAL PROJECT DETAILS

Period: July 1, 2018 to June 30, 2019

Konawaena High School Wildcat Robotics

FUNDING AMOUNT REQUESTED						
TOTAL PROJECT COST	ALL SOURCES OF FUNDS RECEIVED IN PRIOR YEARS		STATE FUNDS REQUESTED	OTHER SOURCES OF FUNDS REQUESTED	FUNDING REQUIRED IN SUCCEEDING YEARS	
	FY: 2016-2017	FY: 2017-2018	FY:2018-2019	FY:2018-2019	FY:2019-2020	FY:2020-2021
<i>Not applicable</i>						
PLANS						
LAND ACQUISITION						
DESIGN						
CONSTRUCTION						
EQUIPMENT						
TOTAL:						
JUSTIFICATION/COMMENTS:						

BUDGET JUSTIFICATION - PERSONNEL SALARIES AND WAGES

Period: July 1, 2018 to June 30, 2019

Konawaena High School Wildcats Robotics

POSITION TITLE	FULL TIME EQUIVALENT	ANNUAL SALARY A	% OF TIME ALLOCATED TO GRANT REQUEST B	TOTAL STATE FUNDS REQUESTED (A x B)
				\$ -
Not applicable				\$ -
				\$ -
				\$ -
				\$ -
				\$ -
				\$ -
				\$ -
				\$ -
				\$ -
				\$ -
				\$ -
				\$ -
				\$ -
				\$ -
				\$ -
				\$ -
TOTAL:				
JUSTIFICATION/COMMENTS:				

BUDGET JUSTIFICATION - EQUIPMENT AND MOTOR VEHICLES

Period: July 1, 2018 to June 30, 2019

Konawaena High School Wildcat Robotics

DESCRIPTION EQUIPMENT	NO. OF ITEMS	COST PER ITEM	TOTAL COST	TOTAL BUDGETED
Torchmate CNC Mill	1.00	\$20,000.00	\$ 20,000.00	20000
Torchmate Plasma Cutter	1	\$20,000.00	\$ 20,000.00	20000
Grizzly Tools Drill Press	1	\$2,500.00	\$ 2,500.00	2500
Grizzly Tools Band Saw	1	\$2,500.00	\$ 2,500.00	2500
Accessories (Clamps, collets, hand tools, stock, etc)	varies	\$10,000.00	\$ 10,000.00	10000
TOTAL:	4		\$ 55,000.00	55,000

JUSTIFICATION/COMMENTS:

DESCRIPTION OF MOTOR VEHICLE	NO. OF VEHICLES	COST PER VEHICLE	TOTAL COST	TOTAL BUDGETED
<i>Not applicable</i>			\$ -	
			\$ -	
			\$ -	
			\$ -	
			\$ -	
TOTAL:				

JUSTIFICATION/COMMENTS:

**DECLARATION STATEMENT OF
APPLICANTS FOR GRANTS PURSUANT TO
CHAPTER 42F, HAWAI'I REVISED STATUTES**

The undersigned authorized representative of the applicant certifies the following:

- 1) The applicant meets and will comply with all of the following standards for the award of grants pursuant to Section 42F-103, Hawai'i Revised Statutes:
 - a) Is licensed or accredited, in accordance with federal, state, or county statutes, rules, or ordinances, to conduct the activities or provide the services for which a grant is awarded;
 - b) Complies with all applicable federal and state laws prohibiting discrimination against any person on the basis of race, color, national origin, religion, creed, sex, age, sexual orientation, or disability;
 - c) Agrees not to use state funds for entertainment or lobbying activities; and
 - d) Allows the state agency to which funds for the grant were appropriated for expenditure, legislative committees and their staff, and the auditor full access to their records, reports, files, and other related documents and information for purposes of monitoring, measuring the effectiveness, and ensuring the proper expenditure of the grant.
- 2) If the applicant is an organization, the applicant meets the following requirements pursuant to Section 42F-103, Hawai'i Revised Statutes:
 - a) Is incorporated under the laws of the State; and
 - b) Has bylaws or policies that describe the manner in which the activities or services for which a grant is awarded shall be conducted or provided.
- 3) If the applicant is a non-profit organization, it meets the following requirements pursuant to Section 42F-103, Hawai'i Revised Statutes:
 - a) Is determined and designated to be a non-profit organization by the Internal Revenue Service; and
 - b) Has a governing board whose members have no material conflict of interest and serve without compensation.

Pursuant to Section 42F-103, Hawai'i Revised Statutes, for grants used for the acquisition of land, when the organization discontinues the activities or services on the land acquired for which the grant was awarded and disposes of the land in fee simple or by lease, the organization shall negotiate with the expending agency for a lump sum or installment repayment to the State of the amount of the grant used for the acquisition of the land.

Further, the undersigned authorized representative certifies that this statement is true and correct to the best of the applicant's knowledge.

Konawaena High School Wildcat Robotics
(Typed Name of Individual or Organization)



1/17/18
(Date)

Craig Fuller
Name)

(Title) Secondary Teacher