

UNIVERSITY OF HAWAI‘I SYSTEM ANNUAL REPORT



REPORT TO THE 2014 LEGISLATURE

Annual Report on
The Construction Academy Curriculum

HRS 304A-1144

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THE CONSTRUCTION INITIATIVE BACKGROUND

The Construction Academy began in 2004 with a \$1.4 million grant from the U.S. Department of Labor. This grant started a pilot program whereby the University of Hawaii's Honolulu Community College (HCC) partnered with eight Department of Education high schools on O`ahu—Kahuku, Kailua, McKinley, Mililani, Pearl City, Radford, Waipahu, and Waiialua—to prepare high school students with the technical, academic, and employability skills necessary to pursue a career in the construction industry. The initial results of this federally-funded academy model displayed such great potential that in late 2005 many associated with education and construction felt it warranted expansion.

By late 2005, the construction and building industry found itself in a dire situation. Construction projects and developments could move no faster unless there were more qualified workers for the job sites. In late 2005, the industry approached HCC to request its assistance in educating and training a greater number of qualified construction workers. In a true industry-education partnership, HCC, with its experience in the pilot Construction Academy as well as its long history in Apprenticeship Training, developed a comprehensive proposal (the "Construction Initiative") that encompassed both high school education (Construction Academy) and post-high school career training (Apprenticeship).

In session 2006, the Hawai`i State Legislature passed Senate Bill 2980 SD2, HD1, CD1, which appropriated \$5.4 million to expand the Construction Academy to other public high schools on O`ahu as well as on the islands of Kaua`i, Maui, and Hawai`i, and to increase Apprenticeship Training at Honolulu, Hawai`i, Kaua`i, and Maui Community Colleges.

THE CONSTRUCTION ACADEMY

From servicing over 200 students at 8 pilot schools during the 2005–2006 academic year, the Construction Academy had grown to a capacity of over 2000 students in 35 high schools statewide, in academic year 2010-11. However, due to very low matriculation of students to Maui College and budgetary factors, Maui College decided to discontinue the Construction Academy program beginning in the 2012 academic year. With the reduced participation of 9 Maui High Schools, 2013 academic year total student participation is 1,534 at 26 high schools statewide which is a 4.9% reduction in overall state enrollment. Partnerships between the remaining College campuses and the local high schools remain strong. Matriculation to local Community Colleges is strong. Over half of the students in Hawai`i Community College’s first year carpentry students are Construction Academy participants. Of the 448 seniors serviced by the Honolulu Community College’s Construction Academy program, 207 (46.2%) were admitted to a University of Hawai`i (UH) System campus after graduating high school. Of the 207 students, 100 (48.3%) students were admitted to Honolulu Community College, an increase of 7% from 2012. At Kaua`i Community College, of the 148 participating students, 43 (29%) have indicated that they will attend Kaua`i Community College to further their education.

Participating High Schools

Hawai`i Community College		Honolulu Community College		Kaua`i Community College
Honoka`a	Konawaena	Campbell	McKinley	Kapa`a
Ka`ū	Laupahoehoe	Farrington	Nānākuli	Kaua`i
Kea`au	Pahoa	Kaimuki	Pearl City	Waimea
Kealakehe	Waiakea	Kahuku	Radford	
Kohala		Kapolei	Roosevelt	
		Leilehua	Wai`anae	
		Mililani	Waipahu	
Enrollment: 275		Enrollment: 1,111		Enrollment: 148

The statewide implementation of the Construction Academy model continues to build and strengthen their relationships with the high schools and community. Remaining flexible to the individual needs of each high school and its surrounding communities remains an essential element of implementation. On May 22, 2013, Kaua`i, Honolulu, and Hawai`i community colleges met to

review the current Construction Academy horizontal system articulation agreement. At the meeting, the following Program Student Learning Outcomes were drafted.

Students participating in the Construction Academy Program will be able to:

- Make informed career choices regarding potential employment in the construction industry.
- Exhibit an understanding of employment expectations in the construction Industry.

Assessments instruments need to be developed regarding the assessment of these draft Program Learner Outcomes. Each campus will work with their respective administration to assure that the program is part of the campus program review process to inform the campus on its progress. All participating campuses agreed to continue with the current articulation agreement until a new agreement is drafted and approved. A brief description of the progress being made by each community college campus is provided in the appendices of this report.

APPRENTICESHIP

The second component of the Construction Initiative is focused on improving and expanding apprenticeship training. The University of Hawai'i Community Colleges currently administer the Related Instruction component of apprenticeship training for most of the non-union and union construction industry apprenticeship programs. Apprenticeship training is undeniably an expensive endeavor that can strain campuses' budgets and tax facilities and equipment. To meet the building industry's on-going need for high quality training, the Colleges' apprenticeship programs must have access to adequate resources and services. The general fund appropriations received included allocations for support staff, lectureship costs and supplies and equipment.

Due to the continuing slump in the construction industry, enrollments in the 2013 academic year (3383) did again decrease from the previous year (3809). However, enrollment levels still remain beyond those in pre-Construction Initiative years. For example, in the 2001 to 2003 academic years that preceded the funding of the Construction Initiative, there was an average of approximately 3140 apprentices enrolled each year, which are 243 fewer than in the 2013 academic year. Despite these decreases in enrollment, the need for strong apprenticeship programs that provide the required training for the State's construction workforce has not diminished.

Position:

	FTE Position Allocated	FTE Position Filled
Administrative Profession Technical	1	1

The Assistant Registrar who was hired in Fall 2008 and whose primary responsibility is recordkeeping for the apprenticeship program continued to provide much needed assistance with attendance records, grades and in generating reports such as cumulative earned hours that are used by apprenticeship coordinators to track their students. She also helped with registration and the resolution of problems that arose in this process. For example, she addressed problems that were encountered by apprentices who paid their tuition online via the MyUH Portal (which the College encourages) by alerting the Business Office of the need to redirect payments which were made in the wrong term and by providing apprentices with instruction on navigating within the Portal site.

Additionally, she took on the responsibility of directly servicing our many apprenticeship training affiliates in matters related to registration, student records and special requests for data. Finally, she continued to fine tune the process and schedule for purging apprentices for non-payment of tuition and the result has been more accurate class rosters and the elimination of unnecessary charges or financial obligations for students. As reported earlier, the other campuses have much fewer apprentices so their appropriations did not include funds for additional positions. The Apprenticeship Offices at these colleges have had to obtain support from other departments on their campuses.

The funds earmarked for lectureship costs helped the College employ a staff of approximately 140 instructors. During the past academic year, wages for approximately 20,534 instructor hours (532 apprenticeship classes) were paid with these funds. Maui Community College also received an allotment for lectureship with which they paid wages for approximately 3328 instructor hours (43 apprenticeship classes). The other campuses did not receive allocations for lectureship so instructors' payroll had to be funded from other sources.

Despite the downward trend in the last few years, as compared to a decade ago, apprenticeship enrollments remained elevated at the College this past year and are expected to increase in the current academic year (Fall 2013 - Spring 2014). At this point in the Fall 2013 semester, with several weeks still remaining in the term, enrollment is already beyond 1,800. Some programs register students in short-term classes through mid-December so the student count will increase over the next few weeks. In Spring 2014, the College should also experience an increase in apprenticeship enrollments because there have been solid indications of a resurgence in the building industry after the start of the new year (as reported by different training programs and the media), several trade apprenticeship programs recently conducted recruitments and the College and Workforce Development Office are reviewing requests from several sponsors for approval to create their own programs.

Due to the steady streams of apprentices that came to the campuses, shop equipment suffered considerable wear and tear and materials and supplies were a huge expense. The Colleges continued to use their allocations to replace old equipment and tools, purchase new types of equipment to keep pace with technology and replenish shop supplies and materials. This annual funding enabled

the Colleges to replace some of their outdated and/or unsafe equipment and purchase different kinds of equipment that programs utilized to expand the scope of their training. For example, safety and how-to DVDs were purchased for use by all trades to supplement their training and safety programs, AutoCAD software in the Apprenticeship Computer Lab was updated to the latest version, the current release of Adobe was acquired to help the Plumber's Training more effectively manage their programs, heavy duty shop shelving was installed in the Roofer's Lab to better organize and utilize the limited shop space and a number of power tools were bought to replace old, overused ones. Funds were also used to purchase materials such as sand and concrete for the Masons, lumber for the Carpenters, electrodes for the Welding shop, and oxygen, argon and acetylene gases for the Boilermakers and Ironworkers.

In summary, with the continued funding, the University of Hawai'i Community College Apprenticeship Offices were able to satisfactorily meet the training needs of their trade programs. The Assistant Registrar at Honolulu Community College continued to work to ensure the accuracy and integrity of apprenticeship records and to improve data gathering and dissemination procedures. The funding for lectureship costs helped the College fund our very full schedules of classes. Allocations for supplies and materials enabled the Colleges to at least partially restock shop consumables that constitute substantial and growing expenses as the costs of materials continue to increase dramatically. Departments were also able purchase equipment and tools to replace old, outdated and/or unsafe models and different types of equipment that were earlier not available for training.

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HAWAI`I COMMUNITY COLLEGE

School Year	10-11	11-12	12-13
Participating High Schools	9	9	9
Building & Construction 1	229	246	146
Building & Construction 2	81	89	61
Mechanical Drawing	n/a	0	0
Drafting Technology 1	43	47	54
Drafting Technology 2		0	14
Total	353	382	275

Participating high schools include Honoka`a, Ka`ū, Kea`au, Kealakehe, Kohala, Konawaena, Laupahoehoe, Paho, and Waiakea High Schools.

Construction Academy classes on the island of Hawai`i are offered at nine high schools on the island. Enrollment decreases occurred in most areas taught by the program, resulting in an overall decrease of 28%. Graduates of the Construction Academy articulate to the UHCC Community College system and apprenticeship programs, fulfilling the vision of the program. Construction Academy alumni are enrolled in a variety of programs at the college. In fact, for the 2012-2013 academic year, 9 of the 16 students enrolled in Hawai`i Community College's first year carpentry program are graduates of the Construction Academy.

Safety, math, and construction terminology continue to be priorities of the program. Construction Academy personnel have articulated student learning outcomes and assessments with the Carpentry program at Hawai`i Community College. The Academy held its sixth annual Safety-First Hand Tools Face-Off in May 2012, inviting Big Island high school students taking Construction Academy Classes to visit Hawai`i Community College and participate in a series of appropriate challenges. The competitive events tested the students' use of hand tools and safe practices in the areas of joint construction, stud framing, nailing, and measurement calculations. A competition solely for drafting technology students was held concurrently. Participants at the daylong event represented 8 of the 9 high schools with Construction Academy programs.

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The Construction Academy has home-based instructors in nine high schools. The Academy has 7.5 FTE instructors in non-tenure track positions and .5 (Honoka`a) casual hire. The casual hire is assigned to Honoka`a High School. In anticipation of expanding offerings at Kohala High to include Design Technology and offer a Construction Academy program at Honoka`a High starting fall 2012, we similarly elected to utilize a qualified individual as a casual hire, waiting until the next academic year to hire a non-tenure track instructor for Kohala High. We have hired a FTE instructor for Kohala High (starting Fall 2013) and a .5 casual hire for Honoka`a (Fall 2012). Kohala offers BC 1, BC 2, and Design Tech I. Honokaa offers BC 1, BC 2.

The Construction Academy currently has 1 vacant position. When the program started in 2006, one position was used to hire a coordinator. The individual filling this position retired June 2009, returning as a .5 casual hire fall 2009. Starting spring 2010, a decision was made to not fill the position in an effort to cover budget reductions. The Construction Academy's clerical position became vacant fall 2010 when the incumbent accepted a temporary reassignment to gain experience in a higher level position. The clerical position has been filled by a casual hire office assistant. At the end of the 2011-12 academic year, the VCAA reassigned a CA FTE position to FTE counseling (specializing in ATE programs) position. This was in response to reprioritizing the college's faculty positions. With the substitution of a counseling position and the appointment of the Kohala High position, this leaves 1 FTE position available from the original 9.5 allocated positions.

	FTE Position Original Allocation	FTE Position Current Allocation	FTE Position Filled
Home-Based Instructors (.5 position reallocated within the College 2010-11)	7	7.5	7.5 FTE/.5 Casual
Traveling Instructors	2	None	
Counselor (1.0 position reallocated within the College 2011-12)	1		n/a
Clerical	1	1 Casual	Temporary Vacancy
Total	11	10.5	10.5

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The Construction Academy program has been well-received by Hawai'i Island high schools since its inception. Hawai'i Community College continues to foster these relationships and build new ones. The slowdown in construction experienced over the last several years has not slowed down the program's efforts. Construction Academy personnel continue to recruit students and expand offerings, promoting the idea that the skills learned through the Academy will benefit students throughout their life, regardless of their career choice. Our Construction Academy faculty are valued members of the high schools where they teach. As instructors they provide high quality educational experiences, promoting skill development in both technical and academic areas. As community college faculty, they introduce post-secondary education to individuals who might otherwise never consider going to college. They provide school and community service. They share their construction expertise, assisting with special projects when appropriate. They make the schools they serve a better place. They change lives for the better.

HONOLULU COMMUNITY COLLEGE

Scope of Service for the 2012–2013 School Year

For the 2012–2013 school year, the Honolulu CC Construction Academy offered three Department of Education courses at 14 O`ahu high schools—Campbell, Farrington, Kahuku, Kaimuki, Kapolei, Leilehua, McKinley, Mililani, Nānākuli, Pearl City, Radford, Roosevelt, Wai`anae, and Waipahu.

Of the 1,111 students that were serviced, 60.1% of the students were enrolled in *Building & Construction Technology 1*; 24.9% in *Building & Construction Technology 2*; and 14.9% in *Design Technology 1* (Table 1).

Table 1. Course Enrollment—Number of Students Serviced by Course

Course Name	Student Count	%
Building & Construction Technology 1	668	60.1%
Building & Construction Technology 2	277	24.9%
Design Technology 1	166	14.9%
TOTAL	1111	99.9%

The program had a gender demographic of 88.1% males and 11.9% females (Table 2).

Table 2. Student Demographics—Gender

Gender	Student Count	%
Male	979	88.1%
Female	132	11.9%
TOTAL	1111	100.0%

Matriculation of Students into the UH System

Over three quarters (78.8%) of the students serviced were juniors and seniors (*Table 3*).

Table 3. Student Demographics—by Class

Grade Level	Student Count	%
9	62	5.6%
10	173	15.6%
11	428	38.5%
12	448	40.3%
TOTAL	1111	100.0%

Of the 448 seniors serviced by the Academy, 207 (46.2%) were admitted to a University of Hawai'i (UH) System campus after graduating high school; 48.3% of those students were admitted to Honolulu CC (*Table 4*).

Table 4. Matriculation of CNAC Students into the UH System
*Number of Students Who Matriculated into the UH System by Campus**

UH Campus	Student Count	%
Hawai'i CC	1	0.5%
Honolulu CC	100	48.3%
Kapi'olani CC	17	8.2%
Leeward CC	56	27.1%
UH Mānoa	17	8.2%
UH Maui College	1	0.5%
UH West O`ahu	11	5.3%
Windward CC	4	1.9%
TOTAL	207	100.0%

*Students who matriculated into the UH System were defined as seniors who were admitted to a UH Campus after graduating from high school (Summer 2013, Fall 2013, or Spring 2014).

Two hundred and four students identified a field of study (three students are *unclassified*) among 39 majors (Table 5). Of these 204 students, 47 (23.0%) chose to major in a construction-related field.

Table 5. Matriculation of CNAC Students into the UH System
*Number of Students Who Matriculated into the UH System by Major**

Student Majors	Student Count	%
Accounting	3	1.4%
Administration of Justice	3	1.4%
Aeronautics Maintenance Technology	5	2.4%
Agriculture	1	0.5%
Architectural, Engineering, and CAD Technologies	3	1.4%
Architecture	2	1.0%
Auto Body Repair and Painting	5	2.4%
Automotive Technology	13	6.3%
Biochemistry	1	0.5%
Business Administration---General	1	0.5%
Business Administration---Marketing	1	0.5%
Carpentry Technology	12	5.8%
Communication Arts	1	0.5%
Computing, Electronics, and Networking Technology	12	5.8%
Construction Management	1	0.5%
Cosmetology	2	1.0%
Culinary Arts	6	2.9%
Digital Media Production	4	1.9%
Electrical Engineering	2	1.0%
Electrical Installation & Maintenance Technology	10	4.8%
Fire & Environmental Emergency Response	4	1.9%
General Arts & Sciences	3	1.4%
General---Pre-Business	1	0.5%
General---Pre-Medical Tech	1	0.5%
General---Pre-Social Work	1	0.5%
General-Undeclared	3	1.4%
Hawaiian Studies	1	0.5%
Hospitality and Tourism	1	0.5%
Information & Computer Sciences	2	1.0%
Information Technology	1	0.5%
Liberal Arts	72	34.8%
Mechanical Engineering	2	1.0%
Music & Entertainment Learning Experience	6	2.9%
Natural Science---Engineering	3	1.4%
Pre-Engineering	3	1.4%
Public Administration	2	1.0%
Sheet Metal and Plastics Technology	4	1.9%
Unclassified	3	1.4%
Veterinary Assisting	1	0.5%
Welding Technology	5	2.4%
TOTAL	207	99.90%

*Students who matriculated into the UH System were defined as seniors who were admitted to a UH Campus after graduating from high school (Summer 2013, Fall 2013, or Spring 2014).

Construction-Related Majors

Table 6 lists the degrees and certificates sought by the students who matriculated into the UH System. Of 207 students, 7.7% are pursuing *certificates*, 77.8% for *associate* degrees, 12.1% for *bachelor's* degrees, and 1.0% for *doctoral* degrees.

Table 6. Matriculation of CNAC Students into the UH System
*Number of Students Who Matriculated into the UH System by Degree & Certificate Sought**

Degree/Certificate	Student Count	%
Associate of Arts	74	35.7%
Associate in Applied Science	53	25.6%
Associate in Science	34	16.4%
Bachelor of Arts	15	7.2%
Bachelor of Applied Sciences	3	1.4%
Bachelor of Science	7	3.4%
Certificate of Achievement	13	6.3%
Certificate of Completion	3	1.4%
Doctorate of Architecture	2	1.0%
Non-Degree	3	1.4%
TOTAL	207	99.8%

Summer Program 2013

The Honolulu CC Construction Academy held its 2013 Summer Program from June 3, 2013 through July 3, 2013. The Summer Program engages high school students, who will be entering grades 10–12 and recent 2013 graduates, in hands-on activities that will give them insight to the careers, educational pathways, and opportunities available in various facets of the construction industry.

First-time Summer Program students participated in *Exploring the Trades* which exposed them to four industry specialties (architectural, engineering, and CAD technologies; carpentry; sheet metal; and welding). For five weeks, *Exploring the Trades* students spent approximately one week learning about each trade where they learned about tool and shop safety; tool, equipment, and material identification; and trade-specific techniques that are used in the industry.

Returning Summer Program students learned how the construction skills they acquired last year in *Exploring the Trades* are also relative to other industries. This year, students were introduced to Honolulu CC’s *Small Vessel Fabrication & Repair* program where they learned about composite boat construction, marine woodworking and joinery, boatyard operation skills (crane, forklift, and

straddle lift), and the component systems found on most boats. As a culminating activity, these student teams constructed small boats that they eventually raced off of Sand Island.

This summer, 40 students (76.9%) were enrolled in *Exploring the Trades*; and 12 (23.1%) in *Small Vessel Fabrication & Repair*.

Honolulu CC faculty who specialize in each trade facilitated content area instruction. Where available, Honolulu CC faculty who regularly teach on campus were utilized as the content area instructors. This proved to be advantageous for both the program faculty and the students because: 1) they were able to develop instructor-student relationships; 2) students learned about the program from the actual (Honolulu CC) program instructor; and 3) the program faculty were able to personally promote their programs and trades to a captured audience.

To help students develop an identity with fellow students and faculty, students were grouped into cohorts and assigned to a Honolulu CC instructor who served as their “mentor” throughout the course of the program.

The Honolulu CC Job Placement Coordinator also engaged Construction Academy Summer Program students in workshops focused on appropriate business etiquette while highlighting employability skills that are typically valued by employers. They also learned about on- and off-campus employment resources available to Honolulu CC students.

Each of the 2013 high school graduates also met individually with a counselor who helped them take the next step in making their post-high career or educational goals a reality.

The objectives of the Honolulu CC Construction Academy Summer Program are to:

1. **Engage Student Learning:** Offer students a learning opportunity where they can experience applied instruction in various construction-related fields.
2. **Build Relationships:** Develop relationships with participants to aid in the matriculation of students into the UH System, particularly Honolulu CC.
3. **Offer Professional Development Opportunities:** Due to the distribution of instructors at various high schools on O`ahu and the variance in school schedules, it is difficult to offer professional development opportunities during the school year to Honolulu CC

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Construction Academy instructors. Through this summer program, “mentor” instructors rotate through each trade along with their assigned cohort. This allows them to refresh their knowledge about each trade, learn about the program offerings at Honolulu CC, and observe various instructional styles or ways of presenting curriculum all while servicing the summer program participants.

The 2013 Summer Program afforded 52 high school students from various public and private high schools on O`ahu the opportunity to learn about the construction industry. Of these students, 20 (38.5%) were 2013 high school graduates; 10 students (19.2%) were female; and 22 students (42.3%) were of Native Hawaiian descent.

Eighty percent (16 students) of the program participants who recently graduated in 2013 were admitted into the University of Hawai`i System during the Fall 2013 semester; of the students who matriculated into the University of Hawai`i System, 14 students (70.0%) were admitted to Honolulu CC.

KAUA`I COMMUNITY COLLEGE

Participation:

The current student enrollment for the high schools on Kaua`i totals 148 students from our three high schools. In the Building and Construction courses the total number of students is 103 and 61 students are seeking the college credit offered as they have indicated that they will be seeking college enrollment. In the AutoCAD and the Technical Drawing courses we have 45 students and 36 have stated that they will be seeking the college credit offered as they have indicated that they will be seeking college enrollment. In addition, out of the number of students indicating their plans for college, 43 have stated their choice to be Kaua`i Community College. There are a total of 12 females in our programs; 4 at Waimea High School, 2 at Kaua`i High School, and 6 at Kapa`a High School.

Kapa`a High School enrollment in Construction Academy classes has shifted due to the graduation requirements of the students. The Drafting Technology 1 course has evolved into an introduction to AutoCAD. There are two classes of Building and Construction -1, one class of Building and Construction -2, and one class of Design Tech -1.

KAPA`A HIGH SCHOOL	
COURSE	STUDENTS
BUILDING & CONSTRUCTION - 1	64
BUILDING & CONSTRUCTION - 2	13
DESIGN TECH 1	16
TOTAL STUDENTS	93

Kaua`i High School continues with involvement in the program, new faculty at the high school again this year. We are working with the new teacher, assisting him with understanding our curriculum, and providing both guidance and materials for his class in Building and Construction - 1, a class of 15 students, and a class in Design Tech -1, a class of 10. In addition, the teacher is

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attending our training on our complete curriculum to provide for an expanded course offering in the future, including Building and Construction -2.

KAUA'I HIGH SCHOOL	
COURSE	STUDENTS
BUILDING & CONSTRUCTION - 1	15
DESIGN TECH 1	10
TOTAL STUDENTS	25

Waimea High School enrollment has some decrease this year, however the school remains supportive as they struggle with budget restrictions. We are offering two different courses now that provide a path to KCC dual credit.

WAIMEA HIGH SCHOOL	
COURSE	STUDENTS
BUILDING & CONSTRUCTION - 1	11
BUILDING & CONSTRUCTION - 2	5
DESIGN TECH 1	14
TOTAL STUDENTS	30

Equipment:

The equipment to the schools has been distributed and has been completed along with an evaluation of the condition of the equipment after completing our fifth year. The equipment maintenance program that we have imbedded in the construction academy program is working satisfactory; we have had to replace some hand tools as well as a small amount of power tools to maintain our standards in regards to safety and performance. The acquisition of some additional equipment to minimize risk in working with the students has allowed us to broaden the scope of our curriculum.

Maintaining a safe work environment is still an ongoing challenge. In the Building and Construction classes we have been challenged with the class sizes of the high schools, the high schools are now understanding and cooperative in our maintaining a safe ratio of students to instructors. Materials and equipment are being ordered and staged at KCC, and we are distributing them as needed to each school. Our training for the DOE Industrial Arts teachers from the schools at KCC along with conducting general coordination and informational meetings is ongoing, providing a path of communication between all of us, although due to budget issues, challenges in this area are ongoing.

The AutoCAD program, along with the portable computer lab, has allowed us to enhance all of our classes, and we have introduced both scale modeling and 3D modeling at the high schools in the Drafting Tech -1 course. This introduction is providing an additional resource and tool for the students to work with. We are currently offering classes of Design Tech-1 at all the High Schools. We have purchased 3D printers and are involving the students in understanding the design of the modeling required as well as the actual printing process, to have the ability to perform calibration and preventive maintenance that the printers require.

Special Projects:

Over the past year in cooperation with the Division of Wildlife we have an ongoing project involving all three schools. The project is constructing Kiosks to be used at various locations on the island as information stations for visitors. Last year the students in the Design Tech courses offered several different designs to the Division of Wildlife and once one was selected, the students generated material lists and were in the early stages of cutting the various materials to length. This year the students are involved with the construction, site preparation, and setting of the Kiosks at their locations. The students are able to experience the complete building process along with the interaction of responding to the “customers questions” during the various phases of the project.

Our ongoing building project remains as new classes are involved with additions, alterations, and maintenance of the buildings. The Design Tech course has been involved with the project as well, providing design and construction drawings for the modifications the students want to incorporate into the project. In addition, the project provides an opportunity to invite community members involved in the construction industry to offer comments and criticism. This project also offers an

opportunity to expose the students to the new building codes as well as green and sustainable building methods that are introduced where appropriate.

The Construction Academy program continues to provide assistance to the students at the high schools as mentors, to meet their community service obligations involving their Senior Projects. In addition we work with the Boy Scouts providing mentoring and guidance as the Scouts attain a variety of badges in building and construction related areas.

We are continuing a strong relationship with the local Carpenters Union. They have been a tremendous supporter of our program, providing school visits to offer a walk-through of the students' work, and constructive criticism to the students. The students are required to maintain and record their work and progress in a portfolio. The representatives have let the students know the value of this and guided the students to hold on to that, as it is a resume of their ability. These visits provide the students an opportunity to talk, interact and experience actual job site processes with the carpenters working in the industry. Our tools and equipment are shared with the apprenticeship program on the weekends; this affords us an opportunity to maintain our strong relationship. This year again we received additional requests from the local carpenters union for a recommendation for some of our students to enter into the apprenticeship program, to date we have four of our former students involved with the Carpenters Apprenticeship program, we are receiving excellent comments back on their performance.