The Cost of Education and Proposed UH Analytical Metrics to Promote Greater Efficiency and Productivity

Office of Institutional Research & Analysis

The Cost of Education

**Total Education and General Expenditures**
- Instruction
- Research
- Public Service
- Academic Support
- Student Services
- Institutional Support
- Operations and Maintenance
- Scholarships and Fellowships expenses

**Total Education and Related Expenditures**
- Instruction
- Student Services
- Pro-rated share of Academic Support, Institutional Support and Operations and Maintenance
- Does not include Research, Public Service and Scholarships and Fellowships expenses
Total education and general expenditures has increased an average of 6.6% annually while education and related expenditures has increased by 3.7%.

Components of Education & General Expenditures – UH System

- Total E&G Exp, 2012: $1,341.5M
- Scholarships: $85.3
- Public Service: $84.6
- Research: $525.0
- Education: $646.7

Average Annual Percentage Growth:
- Total: 6.6%
- Education: 3.7%
- Research: 11.3%
- Public Service: 3.1%
- Scholarships: 25.6%

Growth in E&R spending was higher in percentage terms at UHH and UHWO than at UHM and the UHCCs.

Total Education & Related Expenditures – UH Units

All dollar amounts adjusted to 2010 dollars:
- UH Mānoa, $342.9
- UHCCs, $203.7
- UH Hilo, $73.7
- UH West O'ahu, $11.1
Instruction expenditures comprise 59% of E&R expenditures at the UHCCs.

### E&R Expenditures by Type – UHCCs

All dollar amounts adjusted to 2010 dollars.

<table>
<thead>
<tr>
<th>Fiscal Year</th>
<th>Instruction</th>
<th>Student Services</th>
<th>Academic Support</th>
<th>Institutional Support</th>
<th>Operation &amp; Maintenance</th>
</tr>
</thead>
<tbody>
<tr>
<td>2000</td>
<td>$131.2</td>
<td>$126.8</td>
<td>$131.1</td>
<td>$147.4</td>
<td>$150.3</td>
</tr>
<tr>
<td>2001</td>
<td>$126.8</td>
<td>$131.1</td>
<td>$131.1</td>
<td>$150.3</td>
<td>$150.3</td>
</tr>
<tr>
<td>2002</td>
<td>$131.1</td>
<td>$131.1</td>
<td>$131.1</td>
<td>$150.3</td>
<td>$150.3</td>
</tr>
<tr>
<td>2003</td>
<td>$147.4</td>
<td>$150.3</td>
<td>$152.7</td>
<td>$151.3</td>
<td>$165.7</td>
</tr>
<tr>
<td>2004</td>
<td>$150.3</td>
<td>$150.3</td>
<td>$152.7</td>
<td>$151.3</td>
<td>$165.7</td>
</tr>
<tr>
<td>2005</td>
<td>$152.7</td>
<td>$152.7</td>
<td>$151.3</td>
<td>$165.7</td>
<td>$181.8</td>
</tr>
<tr>
<td>2006</td>
<td>$151.3</td>
<td>$165.7</td>
<td>$181.8</td>
<td>$201.3</td>
<td>$203.7</td>
</tr>
</tbody>
</table>

All dollar amounts adjusted to 2010 dollars.

Instruction expenditures comprise 62% of E&R expenditures at Hawai‘i CC.

### E&R Expenditures by Type – Hawai‘i CC

All dollar amounts adjusted to 2010 dollars.

<table>
<thead>
<tr>
<th>Fiscal Year</th>
<th>Instruction</th>
<th>Student Services</th>
<th>Academic Support</th>
<th>Institutional Support</th>
<th>Operation &amp; Maintenance</th>
</tr>
</thead>
<tbody>
<tr>
<td>2000</td>
<td>$13.5</td>
<td>$12.6</td>
<td>$13.5</td>
<td>$14.8</td>
<td>$14.5</td>
</tr>
<tr>
<td>2001</td>
<td>$12.6</td>
<td>$13.5</td>
<td>$14.8</td>
<td>$14.5</td>
<td>$14.8</td>
</tr>
<tr>
<td>2002</td>
<td>$13.5</td>
<td>$14.8</td>
<td>$14.8</td>
<td>$15.1</td>
<td>$17.4</td>
</tr>
<tr>
<td>2003</td>
<td>$14.8</td>
<td>$14.8</td>
<td>$15.1</td>
<td>$17.4</td>
<td>$19.2</td>
</tr>
<tr>
<td>2004</td>
<td>$14.5</td>
<td>$14.8</td>
<td>$15.1</td>
<td>$17.4</td>
<td>$22.6</td>
</tr>
<tr>
<td>2005</td>
<td>$14.8</td>
<td>$14.8</td>
<td>$15.1</td>
<td>$17.4</td>
<td>$24.2</td>
</tr>
<tr>
<td>2006</td>
<td>$15.1</td>
<td>$17.4</td>
<td>$19.2</td>
<td>$22.6</td>
<td>$24.2</td>
</tr>
<tr>
<td>2007</td>
<td>$17.4</td>
<td>$19.2</td>
<td>$22.6</td>
<td>$24.2</td>
<td></td>
</tr>
<tr>
<td>2008</td>
<td>$19.2</td>
<td>$22.6</td>
<td>$24.2</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2009</td>
<td>$22.6</td>
<td>$24.2</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2010</td>
<td>$24.2</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Instruction expenditures comprise 56% of E&R expenditures at Honolulu CC.

**E&R Expenditures by Type – Honolulu CC**

All dollar amounts adjusted to 2010 dollars.

<table>
<thead>
<tr>
<th>Fiscal Year</th>
<th>Instruction</th>
<th>Student Services</th>
<th>Academic Support</th>
<th>Institutional Support</th>
<th>Operation &amp; Maintenance</th>
</tr>
</thead>
<tbody>
<tr>
<td>2000</td>
<td>$24.5</td>
<td>$23.8</td>
<td>$24.1</td>
<td>$27.8</td>
<td>$26.7</td>
</tr>
<tr>
<td>2001</td>
<td>$26.7</td>
<td>$24.1</td>
<td>$27.8</td>
<td>$28.2</td>
<td>$24.2</td>
</tr>
<tr>
<td>2002</td>
<td>$28.2</td>
<td>$24.9</td>
<td>$26.7</td>
<td>$28.2</td>
<td>$30.0</td>
</tr>
<tr>
<td>2003</td>
<td>$30.0</td>
<td>$32.3</td>
<td>$28.2</td>
<td>$30.0</td>
<td>$34.3</td>
</tr>
<tr>
<td>2004</td>
<td>$32.3</td>
<td>$34.3</td>
<td>$30.0</td>
<td>$32.3</td>
<td>$33.1</td>
</tr>
<tr>
<td>2005</td>
<td>$34.3</td>
<td>$33.1</td>
<td>$32.3</td>
<td>$34.3</td>
<td>$34.3</td>
</tr>
<tr>
<td>2006</td>
<td>$33.1</td>
<td>$34.3</td>
<td>$32.3</td>
<td>$34.3</td>
<td>$34.3</td>
</tr>
<tr>
<td>2007</td>
<td>$34.3</td>
<td>$33.1</td>
<td>$34.3</td>
<td>$34.3</td>
<td>$34.3</td>
</tr>
<tr>
<td>2008</td>
<td>$33.1</td>
<td>$34.3</td>
<td>$34.3</td>
<td>$34.3</td>
<td>$34.3</td>
</tr>
<tr>
<td>2009</td>
<td>$34.3</td>
<td>$33.1</td>
<td>$34.3</td>
<td>$34.3</td>
<td>$34.3</td>
</tr>
<tr>
<td>2010</td>
<td>$34.3</td>
<td>$33.1</td>
<td>$34.3</td>
<td>$34.3</td>
<td>$34.3</td>
</tr>
</tbody>
</table>

All dollar amounts adjusted to 2010 dollars.

Instruction expenditures comprise 62% of E&R expenditures at Kapiʻolani CC.

**E&R Expenditures by Type – Kapiʻolani CC**

All dollar amounts adjusted to 2010 dollars.

<table>
<thead>
<tr>
<th>Fiscal Year</th>
<th>Instruction</th>
<th>Student Services</th>
<th>Academic Support</th>
<th>Institutional Support</th>
<th>Operation &amp; Maintenance</th>
</tr>
</thead>
<tbody>
<tr>
<td>2000</td>
<td>$30.5</td>
<td>$30.0</td>
<td>$30.7</td>
<td>$33.4</td>
<td>$34.9</td>
</tr>
<tr>
<td>2001</td>
<td>$34.9</td>
<td>$36.0</td>
<td>$34.9</td>
<td>$34.1</td>
<td>$36.0</td>
</tr>
<tr>
<td>2002</td>
<td>$36.0</td>
<td>$38.2</td>
<td>$36.0</td>
<td>$38.2</td>
<td>$41.8</td>
</tr>
<tr>
<td>2003</td>
<td>$38.2</td>
<td>$41.8</td>
<td>$38.2</td>
<td>$41.8</td>
<td>$44.6</td>
</tr>
<tr>
<td>2004</td>
<td>$41.8</td>
<td>$44.6</td>
<td>$41.8</td>
<td>$44.6</td>
<td>$44.6</td>
</tr>
<tr>
<td>2005</td>
<td>$44.6</td>
<td>$44.6</td>
<td>$44.6</td>
<td>$44.6</td>
<td>$44.6</td>
</tr>
<tr>
<td>2006</td>
<td>$44.6</td>
<td>$44.6</td>
<td>$44.6</td>
<td>$44.6</td>
<td>$44.6</td>
</tr>
<tr>
<td>2007</td>
<td>$44.6</td>
<td>$44.6</td>
<td>$44.6</td>
<td>$44.6</td>
<td>$44.6</td>
</tr>
<tr>
<td>2008</td>
<td>$44.6</td>
<td>$44.6</td>
<td>$44.6</td>
<td>$44.6</td>
<td>$44.6</td>
</tr>
<tr>
<td>2009</td>
<td>$44.6</td>
<td>$44.6</td>
<td>$44.6</td>
<td>$44.6</td>
<td>$44.6</td>
</tr>
<tr>
<td>2010</td>
<td>$44.6</td>
<td>$44.6</td>
<td>$44.6</td>
<td>$44.6</td>
<td>$44.6</td>
</tr>
</tbody>
</table>
Instruction expenditures comprise 50% of E&R expenditures at Kaua’i CC

Instruction expenditures comprise 60% of E&R expenditures at Leeward CC
Instruction expenditures comprise 62% of E&R expenditures at Maui College

E&R Expenditures by Type – Maui College

![](image1)

Instruction expenditures comprise 49% of E&R expenditures at Windward CC

E&R Expenditures by Type – Windward CC

![](image2)
Instructional expenditures have been rising at average annual rates of 2.5% for UHM, 5.1% for the UHCC, 8.7% for UHH and 11.7% at UHWO.

Student services expenditures have been rising at average annual rates from 5% to 9% at all units.
Academic support expenditures have been rising by 3% to 4% at UHM and the UHCCs, but by more than 11% at UHH and UHWO.

Institutional support expenditures have been rising sharply at all campuses, except at UH Mānoa.
Operations and maintenance expenditures have been rising modestly, with the largest percentage increases at the UHCCs and UHWO.

**Operation and Maintenance Expenditures – UH Units**

All dollar amounts adjusted to 2010 dollars.

- UH Mānoa, $41.1
- UHCCs, $19.5
- UH Hilo, $8.6
- UH West O'ahu, $0.3

Fiscal Year

2000 2001 2002 2003 2004 2005 2006 2007 2008 2009 2010

**Introduction: Analytical Metrics to Promote Greater Efficiency and Productivity**

**Goal:** To produce metrics and goals annually which promote greater efficiency and productivity.

**Summary of Proposed Categories**
1. Cost of Completion
2. Student / Staff Ratios
3. Student Success Rates

**Major source of data:**
Use common national data, *US Department of Education, Integrated Postsecondary Education Data System (IPEDS)*, to allow for comparisons with peer institutions.
Peer Institutions

<table>
<thead>
<tr>
<th>Campus</th>
<th>Revision date</th>
<th>Peers</th>
</tr>
</thead>
<tbody>
<tr>
<td>UH Mānoa</td>
<td>2012</td>
<td>Colorado State University; Mississippi State University; Oregon State University; University of Arizona; University of Illinois at Chicago; University of Kentucky; University of New Mexico; Albuquerque; University of South Florida; University of Utah</td>
</tr>
<tr>
<td>UH Hilo</td>
<td>Proposed 2013</td>
<td>California State University-Channel Islands; Delaware State University; Langston University; New Jersey City University; SUNY College of Environmental Science and Forestry; SUNY College at Potsdam; SUNY at Purchase College; Tennessee State University; University of Alaska Southeast; University of Baltimore; University of Washington-Tacoma Campus</td>
</tr>
<tr>
<td>UH West O'ahu</td>
<td>2001</td>
<td>California State University – Monterey Bay; Eastern Oregon University; Great Basin College; Texas A&amp;M University – Texarkana; The Evergreen State College; University of Hawai'i at Hilo; University of Washington – Bothell Campus; University of Washington – Tacoma Campus</td>
</tr>
<tr>
<td>UHCC System</td>
<td>1998</td>
<td>City College of San Francisco; College of DuPage; Cuyahoga Community College District; Kirkwood Community College; Lane Community College; Mesa Community College; Miami-Dade College; Milwaukee Area Technical College; Montgomery College; Mt. Hood Community College; Nassau Community College; Portland Community College; Saint Louis Community College – Forest Park</td>
</tr>
</tbody>
</table>

Cost of Completion

Education and Related (E&R) Spending per Completion

Goal: Increase productivity (more completions per $)

Source: US Department of Education, Integrated Postsecondary Education Data System (IPEDS)

Definitions:

- Completions = Certificates >1 year and all degrees
- E&R Spending = Cost of instruction (salaries and wages, fringe benefits, other expenditures), student services, and the instructional share of academic support, institutional support and operations & maintenance (excludes cost of research, public services and CIP)
Inflation adjusted costs for E&R spending per completion have been relatively stable overtime, with the exception of UH West O’ahu with its new lower division and UH Hilo with its new College of Pharmacy.

E&R expenditures per completion at the UHCCs are 4% below their peers. At Hawai’i CC, the figure is 5% above their peers.
E&R expenditures per completion at Honolulu CC have increased steadily and are now 16% above their peers.

Education & Related Expenditures per Completion
UHCC Comparison Group

E&R expenditures per completion at Kapi'olani CC have increased modestly and are comparable to their peers.

Education & Related Expenditures per Completion
UHCC Comparison Group
E&R expenditures per completion at Kaua‘i CC remain relatively high and measure 75% above their peers.

E&R expenditures per completion at Leeward CC have increased moderately and are 6% above their peers.
E&R expenditures per completion at Maui College have increased slightly but measure 51% above their peers.

E&R expenditures per completion at Windward CC are relatively high and measure 29% above their peers.
Student/Staff Ratios

1. FTE Students per FTE Instructional Faculty
2. FTE Students per Executive / Managerial
3. FTE Students per Professional / Technical
4. Student Semester Hours (SSH=credits per class X number of students X number of classes) per FTE Instructional Faculty

Goals:
- Increase ratio of students per instructional faculty comparable to peers
- Increase SSH production per instructional faculty

Sources: IPEDS
Definitions:
- **FTE students**: Full-time plus part-time multiplied by a factor that varies by sector of institution and level of student (IPEDS method)
- **FTE Instructional Faculty**: All faculty whose responsibility is primarily instruction, with an adjustment for part-time faculty.
- **Executive / Managerial**: Persons whose assignments involve management of the institution, or a customarily recognized department or subdivision thereof. Assignments require the performance of work directly related to management policies or general business operations of the institution, department or subdivision.
- **Professional / Technical**: Other Professionals plus Technical and Paraprofessionals (excludes clerical and maintenance workers)
- **SSH**: 12-Month Semester Hours offered (all levels)
FTE students per FTE faculty have increased slightly in recent years and are highest at UHCC (19.4) and lowest at UHM (11.9).

FTE students per FTE instructional faculty at the UHCCs are 5% below their peers. At Hawai‘i CC, the figure is 25% higher.
FTE students per FTE instructional faculty at Honolulu CC has been up and down and is 15% below their peers.

FTE students per FTE Instructional Faculty
UHCC Comparison Group

FTE students per FTE instructional faculty at Kapiʻolani CC has been rising but is still 11% below their peers.

FTE Students per FTE Instructional Faculty
UHCC Comparison Group
FTE students per FTE instructional faculty at Kaua‘i CC has risen slightly but is still 21% below their peers.

FTE Students per FTE Instructional Faculty
UHCC Comparison Group

FTE students per FTE instructional faculty at Leeward CC has increased somewhat and comparable to their peers.

FTE Students per FTE Instructional Faculty
UHCC Comparison Group
FTE students per FTE instructional faculty at Maui College has been up and down and is now 5% below their peers.

FTE Students per FTE Instructional Faculty
UHCC Comparison Group

FTE students per FTE instructional faculty at Windward CC has been rising sharply and is 4% above their peers.

FTE Students per FTE Instructional Faculty
UHCC Comparison Group
FTE students per E/M has been flat at UH Hilo and UH Mānoa but increasing at UHCC and UH West O‘ahu

As a unit, the UHCCs have 10% more FTE students per E/M than their peers. At Hawai‘i CC, the figure is 42% more.
Honolulu CC has 27% fewer FTE students per E/M than does its peers

Kapi‘olani CC has 98% more FTE students per E/M than does its peers
Kaua’i CC has 6% fewer FTE students per E/M than does its peers

Leeward CC has 130% more FTE students per E/M than does its peers
Maui College has 101% more FTE students per E/M than does its peers

Windward CC has 27% more FTE students per E/M than does its peers
FTE students per professional staff is the one area where all UH units have exhibited a decreasing ratio.

As a unit, the UHCCs have 28% fewer FTE students per professional staff than their peers. Hawai‘i CC has 14% more.
Honolulu CC has 50% fewer FTE students per professional staff than does its peers

Kapiʻolani CC has 17% more FTE students per professional staff than does its peers
Kaua‘i CC has 31\% fewer FTE students per professional staff than does its peers

Leeward CC has 44\% fewer FTE students per professional staff than does its peers
Maui College has 27% fewer FTE students per professional staff does its peers.

Windward CC has 28% fewer FTE students per professional staff than does its peers.
Faculty at the UHCCs generate 558 student semester hours per year (students X credit hours carried) while UH Mānoa faculty generate 332

**12-Month SSH per FTE Instructional Faculty – UH Units**

UHCC faculty generate 23% fewer student semester hours per FTE instructional faculty than their peers. At Hawai’i CC the figure is 3% fewer.
Honolulu CC faculty generate 29% fewer student semester hours per FTE instructional faculty than their peers.

Kapiʻolani CC faculty generate 19% fewer student semester hours per FTE instructional faculty than their peers.
Kaua‘i CC faculty generate 34% fewer student semester hours per FTE instructional faculty than their peers

12-Month SSH per FTE Instructional Faculty
UHCC Comparison Group

Leeward CC faculty generate 34% fewer student semester hours per FTE instructional faculty than their peers

12-Month SSH per FTE Instructional Faculty
UHCC Comparison Group
Maui College faculty generate 13% fewer student semester hours per FTE instructional faculty than their peers

Windward CC faculty generate 9% fewer student semester hours per FTE instructional faculty than their peers
Student Success Rates

1. IPEDS 150% graduation rates (6 years at 4 year institutions and 3 years at 2 year institutions) for the First-Time Full-Time (FTFT) cohort
2. Retention First Fall to Second Fall (FTFT cohort)
3. Graduation and Success Rates (FTFT cohort)
   • For 4 years, 100% graduation rate from any 4 year
   • For 2 years, 100% graduation rate from any 2 year or transfer to any 4 year by fall of third year

Goal: Increase retention and completion rates

150% graduation rates have been relatively steady but are below the national average

Graduation Rates within 150% of Normal Time – UH Units

National average in 2012
4-Years, 57.4%
2-Years, 31.2%

UH Mānoa, 54.8%
UH Hilo, 36.3%
UHCC Average, 14.9%
UHCC three-year graduation rates are comparable to their peers at 14.9%. Hawai‘i CC is also comparable to their peers at 18.8%.

At Honolulu CC, the three-year graduation rates are 7.1 percentage points below their peer group average.
At Kapi‘olani CC, the three-year graduation rates are 1.9 percentage points above their peer group average.

At Kaua‘i CC, the three-year graduation rates are 8.9 percentage points below their peer group average.
At Leeward CC, the three-year graduation rates are 9.7 percentage points below their peer group average.

At Maui College, the three-year graduation rates are 8.7 percentage points below their peer group average.
At Windward CC, the three-year graduation rates are 12.5 percentage points below their peer group average.

Graduation Rates within 150% of Normal Time
UHCC Comparison Group

First fall to second fall retention rates have been steady at all campuses, except for UH West O‘ahu.

Retention Rates – Initial Full-Time Cohorts – UH Units

Retention data were first collected in the 2004–05 IPEDS Fall Enrollment Survey. First cohort at UH West O‘ahu was Fall 2007.
As a unit, the UHCC retention rate, at 60%, is comparable to the peer group. Hawai’i CC is within a percentage point of its peers.

The retention rate for Honolulu CC is 4 percentage points below its peer group.
The retention rate for Kapi‘olani CC is 6 percentage points above its peer group.

The retention rate for Kaua‘i CC is 2 percentage points above its peer group.
The retention rate for Leeward CC is 7 percentage points above its peer group.

Retention Rates – Initial Full-Time Cohorts
UHCC Comparison Group

Retention data were first collected in the 2004–05 IPEDS Fall Enrollment Survey.

The retention rate for Maui College is 4 percentage points above its peer group.

Retention Rates – Initial Full-Time Cohorts
UHCC Comparison Group

Retention data were first collected in the 2004–05 IPEDS Fall Enrollment Survey.
The retention rate for Windward CC is 6 percentage points above its peer group.

**Retention Rates – Initial Full-Time Cohorts**
**UHCC Comparison Group**

Retention data were first collected in the 2004–05 IPEDS Fall Enrollment Survey.

Graduation and Success Rate

**To be completed**
Concluding Remarks

- This is a work in progress
- Comments are welcome
- E-mail: iboshi@hawaii.edu