



## Gateway Courses for First-Year and Second-Year Students

Gateway courses are heavily enrolled courses that have low pass rates. They were defined in the present study as the subset of the 100 most enrolled courses at Kapi'olani Community College (KapCC) with pass rates below 70%. Typically they are defined for an institution using all students. The present study investigated the gateway courses in the first academic year for a cohort of new, first-time students. This allowed an examination of the courses that thwarted student progress and slowed the accumulation of credits in the first academic year. Additionally, gateway courses were investigated for the same student cohort in their second academic year. This allowed gateway courses to be identified that continued to challenge student progress into their second year, and gateway courses that were unique to the second year. This could suggest interventions that would help resolve lingering student learning deficits from the first year and learning deficits in the second year that may be addressed in the first academic year.

### Methodology

A cohort of 1,373 new, first-time students registered and home-based at KapCC in the fall 2010 term was identified as of the census freeze date (25 September 2010.) Special early admit students (concurrently enrolled high school students) were excluded. The 100 top enrolled courses in the 2010-2011 academic year (fall, spring, summer) were identified, and 32 courses of the 100 had mean pass rates below 70%. These were the gateway courses for the first year. Additionally, the 100 top enrolled courses in the 2011-2012 academic year were identified for these students. Of the 100 most enrolled courses, 19 had mean pass rates below 70% and were second-year gateway courses.

### Results

The gateway courses are shown in the two tables below. The first table shows the gateway courses in the first academic year, and the second table shows the gateway courses in the second

First-Year Gateway Courses for New, First-Time Students		
Course	# Students	Pass Rate
ART 101	216	62.50%
ART 107	15	60.00%
ART 115	27	55.56%
BIOL 130	39	30.77%
BIOL 130L	19	15.79%
BOT 101	18	55.56%
BOT 105	17	41.18%
BUS 120	46	67.39%
CHEM 100	105	66.67%
CULN 111	116	57.76%
ECON 120	55	54.55%
ENG 21	162	64.81%
ENT 125	25	60.00%
ESOL 92F	18	66.67%
FSHE 185	120	64.17%

academic year. The number of students enrolled in each course and the mean pass rates also are shown.

As shown in the first table, progress in many specific majors may be delayed. For example, several of the gateway courses are needed for STEM (Science, Technology, Engineering, and Mathematics) majors. Courses in biology, botany, chemistry, math, microbiology, and zoology were gateway courses. Introductory courses in culinary and food service were gateway courses, and introductory courses in business and economics also were gateway courses. All of these courses could have acted as barriers that kept students out of those majors.

Many of the first-year gateway courses were needed for general degree requirements. Courses in art, English, history, math, philosophy, and speech were needed to fulfill degree requirements for AA or AS degrees. Students may have had difficulty accumulating the necessary courses to earn degrees.

HAW 101	74	59.46%
HIST 151	293	64.85%
HIST 152	151	67.55%
ICS 100	102	62.75%
IS 109	37	64.86%
MATH 24	325	46.77%
MATH 25	276	64.49%
MICR 130	35	48.57%
PACS 108	24	66.67%
PCM 23	299	30.10%
PHIL 100	34	67.65%
PHIL 110	24	50.00%
POLS 130	16	56.25%
SOC 100	63	68.25%
SP 181	22	68.18%
SP 251	17	58.82%
ZOOL 141	108	62.96%

<b>Second-Year Gateway Courses for the New, First-Time Cohort</b>		
<b>Course</b>	<b># Students</b>	<b>Pass Rate</b>
ART 101	43	58.14%
BIOL 130	32	43.75%
BIOL 130L	24	54.17%
CHEM 100	62	59.68%
ECON 120	31	32.26%
ENG 22	176	67.05%
ENG 100	22	63.64%
ENG 200	56	64.29%
ESL 100	16	56.25%
HIST 151	121	66.94%
MATH 24	63	60.32%
MATH 25	28	53.57%
MATH 100	91	40.66%
MATH 205	164	55.49%
MICR 130	42	69.05%
PCM 23	42	45.24%
PHIL 110	32	68.75%
SOC 100	58	67.24%
ZOOL 141	93	66.67%

Of the 19 second-year gateway courses, 13 (68%) also were first-year gateway. These courses impeded student progress and the transition to higher-level courses, and may have been a cause of frustration with college and the students' efforts to achieve a higher education.

Two of the subject areas (English and math) in the second-year gateway courses were continuations of the barriers in the first-year. ENG 21 was a first-year gateway, and ENG 22, 100, and 200 were second-year gateways. Many students struggled with ENG 21 in the first year and then struggled with additional English courses in the second year. This also was true with math courses. Students struggled with developmental math in the first year, and then struggled with both developmental and college-level math in the second year.

## **Conclusions**

Many first-year gateway courses continued to be gateway courses into the second year. These lingering deficits were substantial barriers to student achievement. The repeated enrollment and lack of success in the same courses were likely to increase students' perception of academic failure and lead to attrition. Courses that are gateways in both years should receive focused interventions to prevent students from repeating the same courses multiple times without success.

The college-level math and English courses that were gateways in the second year should raise questions concerning the coordination of the developmental to college-level transition. Eventual progress through developmental gateway courses in the first year was followed by continued learning deficits in college-level courses in the second year. The developmental to college-level transition should focus on both the skills needed for successful completion of the developmental courses and the skills that will be required for the college-level courses. Accelerated courses and programs such as Statway or Quantway provide several approaches to ease this transition.

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