

Chabot College

Bottlenecks

Supply and demand for courses needed for transfer and/or degrees

Bottlenecks are courses that students need in order to transfer or get a degree, which do not have enough seats to accommodate the students who need and want to take them. In other words, the supply of the courses that students need is exceeded by the demand.

Groups of Courses

GE Areas: Groups of General Education courses required for either UC or CSU. Also apply to Degrees.

- English Language Communication
- Scientific Inquiry & Quantitative Reasoning
 - Physical Science, Life Science, and Mathematics
- Arts and Humanities
- Social Sciences (includes US History, Constitution, and American Ideals)
- Lifelong Learning & Self Development

Bottlenecks were identified in three stages.

1) All Need:

The courses that all students need to transfer are:

- English 1A, 4 or 7
- Comm 1, 20, or 46
- Math 20, 31, 33, 37, 40, or 43

2) Documented supply:

The total number of seats available in an area, and how many students can be served per semester. A bottleneck is the area with the lowest number of students who can complete their requirements in each area each semester. This limits the number of students who can transfer or get a degree.

3) Documented demand:

The total number of students on the waitlist in each area. A bottleneck is the area or course with the highest number of waitlisted students.

- Almost all courses had waitlists.
- Courses with the largest number of students on the waitlist:
 - HIS 7, 8
 - POSC 1
 - SOC 1
 - HLTH 1
 - BIOL 31
 - PSY 1
 - ENGL 1A, 4, 7
 - COMM 1
 - MATH 43
 - ARTH 1, PHIL 50, NUTR 1

The numbers on the waitlists can be translated into the number of sections needed to accommodate those students on each waitlist.

Chabot College

Determining Capacity and Demand for Basic Skills and College-level Courses

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Chabot Strategic Plan Goal

- ◆ Increase the number of students who achieve their educational goal in a reasonable time
 - ◆ Educational goals of most Chabot students: AA/AS degrees and/or transfer to four-year colleges
 - ◆ Goal coincides with pressure from federal and state agencies to increase completion

Major Questions

- ◆ Our completion rates of degrees, certificates, and transfers are always at the state average
 - ◆ 14,000 students, 3,000 new students each year
 - ◆ 700 degrees, 200 certificates, 900 transfers/year
- ◆ Why aren't more students completing?
- ◆ How can we increase that number?

Preliminary Answers

- ◆ Found bottlenecks in courses that students need
- ◆ Bottlenecks cause continuing students to stay
- ◆ Students who stay start swirling to other courses
- ◆ Swirling blocks access to other students
- ◆ Courses that new students need are already filled when they start to register

- ◆ What could we do about this?

What do our students need to complete?

- ◆ To complete degrees or transfer
 - ◆ 60 college-level units
 - ◆ Courses in a major
 - ◆ General Education distribution requirements
 - ◆ Including College-level English and Math
 - ◆ But first:
 - ◆ 85% of new students need Basic Skills

What do our students need?

- ◆ 11,000+ Continuing students need:
 - ◆ College-level courses
 - ◆ General Education and in their major
- ◆ 3,000 New students need:
 - ◆ Basic Skills English and Math
 - ◆ Survey courses across curriculum

What is our capacity?

- ◆ General Education Areas: students per year
 - ◆ Communication: 1,200
 - ◆ College English: 1,600
 - ◆ Second College English: 1,200
 - ◆ Life Science Lecture: 900
 - ◆ Science Lab (non-majors) 700
 - ◆ Arts and Humanities: 2,400
 - ◆ Social Sciences: 4,100
- ◆ All classes fill and have wait lists (11,000)
- ◆ Bottlenecks: classes with longest wait lists

What is our capacity?

- ◆ Basic Skills English and Math: students/year
 - ◆ Basic Skills English 1,900
 - ◆ Basic Math/pre-Algebra: 700
 - ◆ Beginning Algebra: 1,100
 - ◆ Intermediate Algebra: 1,300
- ◆ Serving 3,000 new students would fill seats
- ◆ Estimated 5,000 students need these courses

Bottlenecks

- ◆ Single-course bottlenecks
 - ◆ Comm Studies 1, History 7, Lab course
 - ◆ Can take them any semester
- ◆ Multi-course sequence bottlenecks
 - ◆ Long sequence in Math, short in English
 - ◆ Delaying the first course delays completion
 - ◆ More time at Chabot --> swirling

Swirling

- ◆ Required course(s) not open
- ◆ Need or want to accumulate units
- ◆ Take courses not needed
- ◆ Fills seats in courses other students need
- ◆ Other students start swirling
- ◆ New students have last choice of courses

Proposed solution to swirling

- ◆ Help most advanced students complete
 - ◆ Make room for newer students
- ◆ Completion as the new Access
- ◆ Students with 48+ units
 - ◆ Close to completing 60 units for degree/
transfer
 - ◆ High number of them: 5,900

Needs of advanced students

- ◆ 5,900 Students with 48+ units
 - ◆ 3,000 (half) had not taken College English
 - ◆ 3,900 (>half) had not taken Pre-coll Math

Needs of advanced students: English

- ◆ Of 5,900 Students with 48+ units
- ◆ 3,000 still needed College English
 - ◆ 1,000 ready for College English
 - ◆ Have 1,600 seats
 - ◆ 2,000 still needed Basic Skills English
 - ◆ Have 1,900 seats

Needs of advanced students: Math

- ◆ Of 5,900 Students with 48+ units
- ◆ 3,900 had not taken Inter. Algebra
 - ◆ 1,400 ready for Intermediate Algebra
 - ◆ Have 1,300 seats
 - ◆ 1,000 needed Beginning Algebra
 - ◆ Have 1,100 seats
 - ◆ 1,000 needed Basic Math/pre-Algebra
 - ◆ Have 700 seats

What was learned

- ◆ Even high unit students have not yet taken Basic Skills English and Math
- ◆ We barely have seats for high-unit students to take needed courses
 - ◆ They also need seats in next courses in their sequences
- ◆ Seats needed for other continuing students
- ◆ Seats needed for new students

How to allocate faculty time

- ◆ More Basic Skills English and Math?
- ◆ More College-level General Education?
- ◆ More science lab courses?

- ◆ One more consideration.....

Generating our funding base

- ◆ State funds based on number of students
- ◆ English, Math, labs have small class sizes
 - ◆ English: 25 students
 - ◆ Math: 35 students
 - ◆ Labs: 25 students
- ◆ Need to offer courses with high class sizes to balance courses with small sizes

How we balanced all this

Example 1

- ◆ Chabot Enrollment Management Committee
- ◆ Proposed faculty allocations of:
 - ◆ 50% low class-size bottleneck courses
 - ◆ 30% medium class-size bottleneck courses
 - ◆ General Education courses of 44 students
 - ◆ 20% high class-size courses
 - ◆ Large lecture, PE classes

How we balanced all this

Example 2

- ◆ Chabot English Faculty
 - ◆ Examined student demand for English courses
 - ◆ Allocated faculty time equally
 - ◆ Basic Skills English
 - ◆ College English
 - ◆ First course (1A)
 - ◆ Second course (4 and 7)

How we balanced all this

Example 3

- ◆ Chabot Faculty with General Ed Courses
 - ◆ Examined course wait lists to identify:
 - ◆ Classes that closed earliest
 - ◆ Classes that had longest waiting lists
 - ◆ Allocated faculty time to most needed courses

Conclusion

- ◆ We can't completely meet the demand
- ◆ Most of our students need both Basic Skills and College-level courses
- ◆ We can alleviate some of the bottlenecks at each level
- ◆ We can meet our funding base

If we balance all that

- ◆ More of our students will complete their goals

Chabot College
Demand and Supply of IGETC General Education Areas / Associates Graduation Requirements

IGETC Area	Five Days before Spring 2012 semester					
	Need for Transfer			Demand		
	Num crses to take per stud	Total number of seats as scheduled	Number students we can serve per semester	Number on Waitlist (above avail seats)	Number of seats per section	Number of sections needed to meet demand
AREA 1 English Communication						
1A English Composition (Eng 1A)	1	837	837	294	27	11
1B Critical Thinking (Eng 4, 7)	1	594	594	257	27	10
1C Oral Comm (CSU) COMM 1, 20, 46	1	600	600	247	27	9
AREA 2 Mathematical Concepts & Quant. Reasoning	1	665	665	195	35	6
AREA 3 *Arts and Humanities (without Amer Cultures/Institutions)	3	1,881	627	234	44	5
AREA 4 #* Social and Behavioral Sciences (without Amer Cultures/Institutions)	3	3,184	1,061	756	44	17
AREA 5 Physical and Biological Sciences						
#All Lecture	2	2,155	1,078	683	44	16
All Lab	1	1,183	1,183	462	24	19
#Non-Major Lecture	2	972	486	172	44	4
Non-Major Lab	1	399	399	59	24	2
Associates Graduation Requirement						
American Cultures	1	2,022	2,022	610	44	**14
American Institutions	1	1,716	1,716	566	44	
Physical Education	1	3,612	3,612	-650		
Areas of Health	1	1,105	1,105	291	44	7

* Includes HIS 1-4, which counts in AREAs 3 & 4.

Includes ANTH 1, which counts in AREAs 3 & 5.

**Can add 14 sections of courses that meet both requirements - HIS 7, 8, 12, 27

**Number of students we can serve in CSU transfer areas per year
(based on Spring 12 and Fall 12 schedules)**

		Need for Transfer		
		Num crses to take per stud	Total number of seats as scheduled	Number students we can serve per year
CSU GE area				
AREA A	English Language Communication			
	A1 Comm 1, 20, 30, 46	1	1,225	1,225
	A2 Eng 1A	1	1,620	1,620
	A3 Engl 4, 7; Comm 46, His 5, Math 12	1	1,296	1,296
AREA B	Scientific Inquiry & Quantitative Reasoning			
	B1 Physical Science Lecture: <i>All</i>	<i>1</i>	2,256	2,256
	Non-majors only	1	1,312	1,312
	B2 Life Science Lecture: <i>All</i>	<i>1</i>	1,668	1,668
	Non-majors only	1	904	904
	B3 Science Laboratory: <i>All</i>	<i>1</i>	2,398	2,398
Non-majors only	1	710	710	
	B4 Math	1	1,330	1,330
AREA C	C1 Arts		2,560	
	C2 Humanities		4,755	
	Arts and Humanities Total:	3	7,315	2,438
AREA D	Social Sciences	3	12,290	4,097
AREA E	Lifelong Learning & Self Development*	1	3,130	3,130

* without PE activity classes or 2 unit PSCN