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The California State University Bottleneck Courses Survey Report

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The California State University
Bottleneck Courses Survey Report

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Research Panel: The Impact of the Use of Contingent Faculty on Higher Education Results

41st Annual NCSCBHEP National Conference
CUNY Graduate Center
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CSU Bottleneck Courses Survey: Methodology

- 866 undergraduate department chairs emailed online CSU Bottleneck Courses Survey on June 14, 2013
- Online survey was confidential and consisted of 10 items
- Survey data were cross-checked against enrollment data from the Common Management System (CMS) and the Student Information Management System (SIMS) from all 23 campuses
- Survey focused on:
  - A common definition of bottleneck courses
  - Bottleneck courses that occurred during the 2012-2013 academic year
  - Total number of sections offered
  - Total number of additional sections needed to alleviate the bottleneck
  - Reasons for bottleneck courses
- Data collection concluded September 6, 2013 with 791 chairs reporting for a 91% response rate
Limitations to the CSU Bottleneck Courses Survey

- Survey focused on bottleneck courses, not on student behavior
- Data are cross-sectional
- Bottleneck courses impact students differentially; some students get into bottleneck course sections and some do not
- Not all bottlenecks pose problems for all students
- Data for additional course sections needed are estimates subject to overestimation
Addressing Data Overestimation

• Survey results were re-examined to focus on data overestimation
• Selected only bottleneck courses required in the major for analysis because department chairs:
  o Know their bottleneck major courses the closest
  o Manage their department budgets
  o Schedule all their classes
  o Determine number of sections based on number of majors
  o Consider room sizes and space constraints
  o Understand faculty expertise
  o Manage pool of part-time faculty
  o Manage faculty workload
  o Analyze course sequencing to provide flexibility to students
  o Advise students who are having trouble getting into classes
  o Maintain accurate roadmaps
Reasons for CSU Bottleneck Courses

1. Not enough funding to hire faculty
2. Not enough tenured and tenure-track faculty available
3. Not enough qualified part-time faculty available
4. Time and day constraints for scheduling rooms
5. Not enough seating capacity for labs
6. Not able to substitute the class with another class
7. Not enough seating capacity for lecture courses
8. Other (please specify)
9. Students repeating a required class to improve their grade
### Bottleneck Major Courses by Undergraduate Level

<table>
<thead>
<tr>
<th>Level</th>
<th>Frequency</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>100-Level</td>
<td>138</td>
<td>15.9</td>
</tr>
<tr>
<td>200-Level</td>
<td>174</td>
<td>20.1</td>
</tr>
<tr>
<td>300-Level</td>
<td>376</td>
<td>43.4</td>
</tr>
<tr>
<td>400-Level</td>
<td>178</td>
<td>20.6</td>
</tr>
<tr>
<td>Total</td>
<td>866</td>
<td>100.0</td>
</tr>
</tbody>
</table>

36% Lower Division

64% Upper Division
Bottleneck Major Courses by Discipline

- STEM: 323 (37%)
- Liberal Arts: 212 (24%)
- Health & Human Svcs: 149 (17%)
- Arts: 110 (13%)
- Business: 40 (5%)
- Education: 32 (4%)

Total: 866
Main reasons:
1. Not enough tenured, tenure-track and qualified part-time faculty
2. Not enough funding to hire faculty
3. Not enough seating capacity for labs
4. Time and day constraints for scheduling rooms
Main reasons:
1. Not enough tenured, tenure-track and qualified part-time faculty
2. Not enough funding to hire faculty
3. Not able to substitute the class with another class
4. Time and day constraints for scheduling rooms
Main reasons:

1. Not enough tenured, tenure-track and qualified part-time faculty
2. Not enough funding to hire faculty
3. Time and day constraints for scheduling rooms
4. Not able to substitute the class with another class

- **678 Sections Taught**
- **364 Additional Sections Needed**
Main Reasons:

1. Not enough funding to hire faculty
2. Not enough tenured, tenure-track and qualified part-time faculty
3. Not able to substitute the class with another class
4. Not enough seating capacity
Main Reasons:
1. Not enough funding to hire faculty
2. Not enough tenured, tenure-track and qualified part-time faculty
3. Students repeating a required class to improve their grade
4. Not enough seating capacity
**Bottleneck Major Courses**

**EDUCATION**

113 Sections Taught

55 Additional Sections Needed

Main Reasons:
1. Not enough funding to hire faculty
2. Not enough tenured, tenure-track and qualified part-time faculty
3. Not able to substitute the class with another class
4. Not enough seating capacity
Kiss: The California State University Bottleneck Courses Survey Report

Study Takeaways: What We Know

CSU Bottleneck Courses Survey revealed:

- Bottleneck courses exist across all disciplines
- STEM and Liberal Arts had the most bottlenecks; Education and Business had the fewest
- Upper division (300- and 400-level) bottleneck courses overlap minimally
- On average 70% of students were enrolled in bottleneck course sections
- Conservatively, 2,103 additional major course sections were needed
Study Takeaways: What We Know

- Bottleneck courses are not permanent roadblocks
- Reasons are multilayered, complex and differ by campus
- Most commonly reported reasons: Lack of funding to hire faculty; not enough qualified part-time faculty; room scheduling and lab space constraints
- Difficult to establish a system-level response as policies, enrollment patterns, scheduling, space issues and department funding vary by campus
Study Takeaways: What We Did Not Know

Impact of bottleneck courses related to:

• Scope of the problem for students
• Time to degree
• Demographic characteristics of students affected by bottlenecks
• Student behavior in terms of course and schedule planning
• Extent to which students have worked with advisers
CSU Student Survey: Methodology

• First phase of survey research focused on a common definition of bottleneck courses of which 1,294 were identified impacting 44,130 students in the 2012-2013 academic year
• Reasons for the bottlenecks were reported but the impact on students was outside the scope of the study
• To determine student impact, a proportional random sample of 387 students was selected from all those who faced a bottleneck course from all campuses in 2012-2013 (+/- 5% margin of error)
• The confidential survey consisted of 30 open- and closed-ended questions administered via the Computer-Assisted Telephone Interviewing (CATI) system
• Data collection concluded February 11, 2014 and findings were presented to CSU Board of Trustees on March 26, 2014
Bottleneck Courses: STUDENT IMPACT

165 students were negatively impacted

387 students could not register in bottleneck courses...

222 students were not impacted
CSU Student Survey: Bottleneck Course Impacts

Students who reported encountering a bottleneck course in fall 2012:

• Paid more money to take courses during winter and summer intersessions to stay on pace to graduate
• Took unnecessary classes to maintain financial aid eligibility
• Required adjustments to class schedules that interfered with work, family and transportation
• Increased unit loads in subsequent semesters to “catch up”
• Could not enroll in required prerequisites which prevented enrolling in other major courses
• Some changed their major
• **Some had their degree progress delayed (n=103)**
Bottleneck Courses Impacting Students’ Progress to Degree

Total = 177 bottleneck courses
CSU Student Survey: Key Findings

Of the 103 students whose degree progress was impacted, the survey revealed:

• No significant differences when comparing the demographic variables between students who were impacted by bottlenecks and those who were not
• Juniors and seniors were disproportionately impacted (68.7%) compared to freshmen and sophomores (31.3%)
• Bottlenecks were much more concentrated in major courses (74.6%) compared to those in general education (25.4%)
• Bottleneck courses increased the time to degree by:
  o 1 or 2 quarters (3.9%)
  o at least one semester (76.7%)
  o one year (19.4%)
• 46% took classes they did not need to maintain financial aid eligibility
• 83.7% would have taken an online section, 87.8% an evening section, 71.4% on Saturday and 44.9% on Sunday if offered
• 35.9% never sought help from an adviser
To further reduce the number of bottlenecks in the CSU, the following recommendations include:

- **Focusing resources on the core problems identified in the surveys**
- **Focusing new initiatives and funding on STEM, Liberal Arts and Health & Human Services**
- **Focusing new initiatives on bottleneck courses embedded in the majors**
- **Incentivizing faculty to develop online programs in academic departments where bottleneck courses historically occur and provide necessary training**
- **Forging policy recommendations in concert with academic leadership and statewide Academic Senate as appropriate**