

Program Review for Computer Science

Development of Action Steps

General Comment:

The reviewers were impressed with the support services provided to Lehman's computer science students and the overall curriculum. They found issues with over-enrollment in the introductory computer science courses and lack of graduate-only courses in the Master's program.

Commendations:

1. Curriculum is thoughtfully designed, aligned well with the needs of the students and reflects the constraints the department operates under
2. The student support services provided to Lehman's computer science students are "commendable" and a "strength of the program."

Identified Issues:

1. Over-enrollment in the "Introduction to Computer Science." This has undermined pass rates for first-year students and led to cases where classrooms are inadequate to meet the needs of the large classes.
2. The Master's program lacks graduate-only course listings and limits its ability to serve graduate students. The prevalence of undergraduate and graduate courses being cross-listed or dually enrolled was "severely out of balance." The curriculum of the graduate program overlaps so significantly with undergraduate courses that there is "little marketable differentiation between the programs."

Recommendations:

Recommendation	Strengths Leveraged/Issues Addressed	Notes	Responsible Party	Actions Taken
1. Increase the number of introductory sections	Issue #1	The Program had switched from small to big classrooms at the time the COVID-19 pandemic hit. Other variables may be involved. Some people don't like the big classrooms.	Program Department	A lab component was also added post program review. The program expects that it will enhance student success. Students can be required to go to the lab
2. Faculty lines should be increased and faculty retention should be prioritized	Issues #1 and #2 and opportunities to reinforce strengths in the curriculum	No current faculty retention problem. Will continue to need more faculty.	Provost Program Department	Recently hired two new lecturers, but one of the previously-hired lecturers is retiring Ongoing search two lines (replacement lines)
3. Classroom allocation should be reviewed to ensure students have sufficient space, chairs, screens, and projectors	Issue #1	In some classrooms, the projectors were old, low-resolution. There were projectors, but they weren't up-to-date.	Program Department Registrar	The projectors have been updated
4. Create/offer more distinct courses for graduate students or discontinue/change structure of the graduate program	Issue #2	Need more faculty lines to reduce the cross-listing. Limited faculty constrains the listing of courses.	Program Department	Program believe it needs to look at research
5. Develop a stable funding line for tutoring at the beginning of the semester	Reinforce Lehman's support services	Tutoring services are offered outside the program. Has been discussed at FP&B. More than just about computer science. Tutoring needs to be connected to student	Provost Program Department	

		success. Failing students are less likely to show up for tutoring.		
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In addition to the reviewers' recommendations, the School and Department believe the following three components would significantly strengthen the program:

1. Need for a gateway student success initiative to reduce failure rates among entering students. This initiative should include:
 - a. Assessing the impact of CMP 128 on subsequent student success in CMP 167. Where do students go who choose to not continue in the CS majors after CMP 128. How do students do in CMP 167.
 - b. Are we placing students properly in CMP 128.
 - c. What are baseline failure and passing rates in CMP 167. Consider a healthy analysis of past failure rates. Compare FYI and non-FYI students.
 - d. Assess the new laboratory program and its relationship with the tutoring center. Consider including "tutors" in the labs. Consider other interventions.
 - e. How are transfer students entering the major and what are their pitfalls?
2. Internships: The CUNY Inclusive Economy (CIE) initiative is assisting in this area.
 - a. How is the CIE initiative influencing courses in the major?
 - b. How is the CIE initiative increasing internship getting?
 - c. What kind of "internship prep" is taking place? What is in-class and what is workshop based?
 - d. Are we tracking where students are getting jobs? Can we create a database of graduates? Can we use the database to build an alumni base? Can we contact and include the alumni in student mentorship?
 - e. Determine a set of questions and produce an annual report each year?
3. Robust Research Plan: Include pursuit of grant funding; part of the Master's Program
 - a. What is needed to increase grant funding about research active faculty?
 - b. What is needed to recruit new research active faculty into the department? Are there specific startup needs? Space needs?
 - c. How can the increase in professoriate line faculty potentially impact the masters? Can some key master's courses be held independently of undergraduate courses.