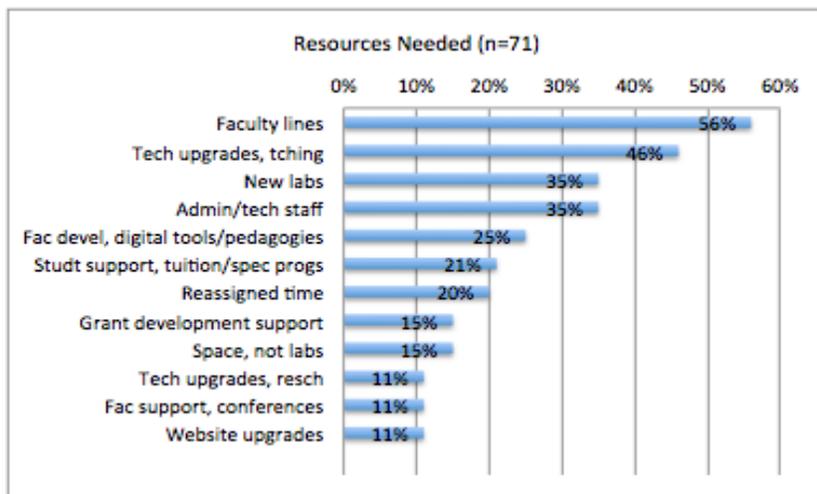**RESOURCES NEEDED**

Seventy-one out of 80 reports included specific requests for resources. The chart below shows the resources ranked in order of popularity.

Resources Needed (n=71)

Resource	Percentage
Faculty lines	56%
Tech upgrades, tching	46%
New labs	35%
Admin/tech staff	35%
Fac devel, digital tools/pedagogies	25%
Studt support, tuition/spec progs	21%
Reassigned time	20%
Grant development support	15%
Space, not labs	15%
Tech upgrades, resch	11%
Fac support, conferences	11%
Website upgrades	11%

Detail is provided below on the following resource requests: faculty lines and reassigned time, technology-related requests, new labs and instructional spaces, administrative/tech support, and funding to offset student costs.

Many of these requests are also described in the "Promising New Strategies" sections of Information Sheets 1-4. Due to limited space, examples below are included as illustrations, but in every case there are more programs that could be cited. The vast majority of requests for resources were tied directly to student outcomes. The requests suggest a basic respect for the student experience: these are the state-of-the-art opportunities and equipment that Lehman students deserve.

1. Faculty lines and reassigned time:
- **To grow current programs, develop new programs, and fill gaps in expertise.** New faculty hires will enable departments to:
  - Offer more sections of introductory courses (multiple programs).
  - Create or expand programs (BS/MS in Accounting, Geoscience Careers, Earth Science Education),
  - Provide courses and programs in areas of employment growth (managed care, applied mathematics, geoscience careers).
  - Achieve certification (multiple programs).
  - Bring needed expertise (digital humanities, non-western arts, director of theater & dance, business librarian, actuarial science).

- **To enhance undergraduate and faculty research.** New faculty hires or faculty with reassigned

time will be able to:
- Design and lead projects involving teams of undergraduates to enhance the research in faculty labs.
- Mentor students to design research studies, and publish and present.
- Develop and staff a Child Study Center.
- Work on grants, conduct "research to benefit the field," write for publication.

- **To improve teaching.** Examples include:
  - New faculty who will bring experience in "chemistry education and collaborative work, so new models of STEM instruction can be studied." Future hires in Chemistry "will be required to demonstrate interest and experience working in the broader community."
  - New faculty in Nursing who will bring expertise in technology and using simulations for learning.
  - New faculty in Mathematics who will "support collaborative curriculum development to meet the need for building the mathematical capacity and understanding in a range of disciplines at Lehman."
  - Multiple programs cite the need for reassigned time to re-imagine courses and programs as fully online, making innovative use of the digital space.

Three programs express concern that CUNY's salaries are less competitive than industry or other universities, making it difficult for departments to replace or recruit additional faculty (Accounting, Business, Mathematics). One other program discusses a "nationwide shortage of doctoral level faculty" (Therapeutic Recreation).

2. Technology-related resource needs
- **General needs related to technology and digital pedagogies:**
  - Create additional fully equipped Smart classrooms (18 programs identified this need).
  - Improve Wi-Fi and thus enable more distance-conferencing capability to engage with experts.
  - Upgrade computers for faculty offices in order to use Blackboard more efficiently, and to "develop multimedia projects in conjunction with students, utilize digital humanities approaches to collecting and disseminating information, and create deliverables such as student-directed short films and documentaries."
  - Upgrade computer labs to enable "more flexibility in settings, software, and hardware" to serve faculty and student needs.
  - Increase investment in e-portfolios, wikis, databases and other digital tools.
  - Expand iPad and tablet lending program for students; obtain dedicated sets of iPads or laptop carts for teaching.
  - Digitize video libraries for in-class and online instruction.
  - Increase investments in 3D printing and scanning.
  - Explore alternatives to Blackboard.
  - Use Lehman Connect and E-Portfolio more extensively to showcase student work and

raise awareness of programs.

- **Program-specific investments in digital education:**
    - Provide access to more research databases for students and faculty.
    - Acquire more state-of-the-art professional software and hardware to support undergraduate research and hands-on learning related to specific careers (e.g., physiological recording stations that would allow Psychology students "to conduct studies using brain wave, heart rate, and other physiological measures," "development systems or prototyping boards" for Computer Science, "a force plate, motion capture technology, isokinetic testing, etc." for the Human Performance Lab).
    - Obtain "tools from the AI and argumentation theory community that focus on how to represent arguments."
    - Continue development of the electronic music lab in order to make the Music program more competitive in attracting students interested in digital composition and recording.
    - Purchase additional cameras, microphones, and tripods for use by teacher candidates in School of Education.
    - Improve "the technological infrastructure for conducting sociological research" so that the department "can produce important research and prepare our students for data-focused careers." Specific improvements include: "a secure data server with storage for large data sets accessible to both faculty and students, equipment for a restricted access data research office, tablets and voice recorders for qualitative data collection, and qualitative analysis software."

- **Technology used for tutoring and outreach:**
    - Obtain NetTutor, Ask Online, statistical software licenses such as SPSS and Stata; card swipe system to track users; kiosks for making appointments (ISSP).
    - Adopt social media mechanisms to communicate with and track current students and alumni.
    - Adopt a Customer Relationship Management (CRM) tool for communications and advisement (FYI).
    - Create/use cellphone and tablet apps to enable better communication with students.
    - Develop new/upgraded websites for communication with students, recruitment, to raise profile, and/or communicate with community served by program.

- **Faculty development in online or digital teaching:**
    - Develop greater facility with embedding new applications, including video capture, into Blackboard and other online programs.
    - Provide "training for faculty and students in technology tools to support young children's learning" (Early Childhood & Childhood Education).
    - Provide "training in interdisciplinary digital tools, such as GIS mapping, or training in the most recent methodologies of Digital Humanities."

3. New labs, centers, and redesigned instructional spaces:
- **New labs and centers, such as:**
  - Cultural Anthropology lab.
  - Therapeutic Recreation lab: "this is a trend in the field and would make us competitive with other programs by strengthening students' activity skills and ability to develop instructional and therapeutic materials."
  - Additional media labs to support students' multimedia projects.
  - Library faculty makerspace providing "access and training in cutting-edge technologies (3-D printing, data visualization, editing software, animation, desktop publishing, graphic design, etc.)."
  - Simulation lab for Nursing programs.
  - Establishment of a GISc research center. "Currently, an informal 'center,' the Urban GISc Lab, has relied upon sporadic grant funding to hire students and conduct research, but it has an insecure funding stream."
  - Technology-enriched Child Study Center for faculty and preservice teachers, providing education services to families.
- **Redesigned instructional spaces, such as:**
  - Technologically-innovative large lecture space enabling various media to run simultaneously, thus promoting more student-centered, small group, peer-led activities, and "streaming centers" so students can engage with video lectures individually and in groups in a "flipped classroom" model.
  - "Gut-renovation of the Gillet Auditorium space, allowing for the creation of four modern larger capacity, stadium-style seating teaching spaces, to accommodate several larger classes."
  - Space "to conduct community participatory research and offer ongoing programs through a nurse managed center."
  - Redesigned library classrooms to promote collaboration and interactivity.

4. Administrative/tech/research staff.

Programs cite the need for personnel to staff new or existing labs and support a range of functions including grant writing, recruitment, advocacy, data management, and alumni relations, as well as to develop new clinical sites. Some requests were tech/media related, such as:
- "Dedicated multimedia practitioner to staff our media center, advise students on multimedia projects, consult with faculty in classes that combine media with theatre/dance and provide expertise and assistance with production and post-production of multimedia projects."
- Intern or work-study student "to record, organize and upload footage of in-class projects so that students can view their work on a more regular basis."
- Staffing for Multimedia Center rooms and editing suites beyond regular business hours.
- More tech fellows and additional staff in the Office of Online Education

One other program cited the need for a program staff member to provide full-time program advisement and student support.

5. Student support for internships, research experiences, special programs.

Programs cite a range of special programs that would enhance students' education, but which students find difficult to attend, given jobs, families, and limited income. Programs have funded some of these efforts in the past using external grants, though these have been time-limited and success in getting funding can vary over time. Consequently there remains a need to provide consistent annual support in the form of **scholarships and tuition assistance**. Some examples include:

- Competitive music scholarship fund.
- Student participation in summer anthropology fieldwork and field schools so that "they can access the full range of anthropology experiences even if they do not have the financial ability to do so."
- Paid internships and research assistance.
- "Urban Teacher Residency" program, which involves "funding of about $40,000/candidate, including a stipend, health insurance, and tuition assistance during the program." Or, less ambitiously:
- Stipends for clinically rich full-time internships so students can have two semesters of student teaching.

Programs also request student support for certification exam review sessions, and for student events (e.g., pinning ceremony in Nursing) that are currently paid for by students "out of pocket."

6. In addition to the resources described above, programs also cited:

- **The need for additional books, materials, and equipment, such as:**
  - Support for the Library to house archival historical resources and collections, directly linked to the History department website.
  - Better equipped children's literacy classrooms on campus.
  - Additional instruments for the Music program.
  - Upgraded skeletal and fossil collections in Anthropology.
  - Books and materials that respond to changes in accreditation for clinical programs.
  - Professional-exam review materials and free/affordable review programs.

- **The need for grant assistance, including:**
  - Assistance in attracting donor funds.
  - Departmental or College assistance in developing more grants (See Information Sheets 1-4 or above for some specific project ideas).
  - New or new-cycle grants for student support services.

- **Support to build a faculty/student intellectual community,** including funds for symposia, speaker series, and new clubs.