

# CSTEP OUTCOME DATA BETWEEN 2011-2015



### ***Le Moyne College Collegiate Science Technology Entry Program (CSTEP)***

#### ***Successes and Outcomes:***

The LMC programs noted above provide a unique collaborative, supportive environment for the successful operation of CSTEP at Le Moyne. Since its inception in 2011, CSTEP has enrolled 214 students interested in pursuing CSTEP-targeted professions (35 students above enrollment target). CSTEP has a successful track record in recruiting and retaining historically underrepresented and economically disadvantaged students. In particular, we have been very successful at recruiting and retaining young males of color, a group traditionally hard to attract to academically challenging programs like CSTEP. Overall, 35% of our students are males; 70% are African-American and 15% Hispanic/Latino.

Due to the success of the program, each semester, the Program is always 100% enrolled—and often consistently over-enrolled. Our retention rate is 90%, while our graduation to graduate school and/or employment rate is 90% within 6 months. All students leave the CSTEP program with a Bachelor's degree in a CSTEP-related field—earned at LMC. Over eight (8) majors are represented by current CSTEP students including Biology, Nursing, Information Technology, Computer Science, Chemistry, Physics, Criminology, Health Professions, Accounting, Math and the Social Sciences.

#### **CSTEP Preparation and inspiration of future STEM scholars:**

Cornerstones of the CSTEP program are the high expectations and accountability we require of our students. An intensive and comprehensive academic enrichment program is critical to student success and individual academic advising is an integral part of our program. Students are required to have three individual academic advising sessions each semester with CSTEP professionals. In addition, structured and regular tutoring has contributed to enhanced classroom learning where CSTEP students have availed themselves of unprecedented hours of tutoring since the inception of the program. Also, on a weekly basis, one to two hours of academic/professional development workshops (featuring a wide range of accomplished professional from CSTEP fields) have been

attended by 85-90% of our students. Moreover, the accessibility of staff has led to many hours of individual counseling on personal, financial, and wellness issues, enabling students to remain focused on their academic and career goals.

**CSTEP Inspiration beyond the classroom:**

Success in the classroom does not alone ensure success in the workplace, especially in today's competitive, global economy. The CSTEP Program provides a graduated sequence of research opportunities, internships, and professional development activities that move students through general experience (such as jobs and internships on and off-campus) to career-specific, "real world" experiences. This approach ensures that when CSTEP students graduate they possess multiple "hard and soft" skills and the professional mindset necessary for success in their chosen fields.

**CSTEP partnerships with competent leaders expand capacity for STEM education and training:**

We have established a strong, collaborative network of both internal partners at LMC (such as professors, department chairs, deans, administrators, staff and LMC Board of Regent members) and external partners (nearly 20 businesses and community organizations throughout Central New York). Our internal and external partnerships include other institutional programs with similar objectives such as HEOP and AHANA, LPP, STEP, Upward Bound and Statewide and Regional Consortiums of CSTEP and STEP. This network provides CSTEP students with high quality opportunities for experiential learning, research and professional development to complement each student's STEM-related academic career.

**CSTEP Evaluation Plan:**

An evaluation process has been in place since the start of the program with a semi-annual *CSTEP Student Satisfaction Survey* that enjoys a return rate of 80%. Survey results (and analyses of quantitative data) form the basis for performance improvement measures in order to respond to the needs of our students. *A longitudinal analysis of student feedback over seven semesters reveals the following:*

- Male inclusion has increased significantly and presently stands at parity with female inclusion.

- Ethnically, relative participation proportions of five major ethnic categories have been converging and equalizing, with the exception of Native American of which there is no indication
- Class standing of participants changes from semester to semester and shows no clear trend.
- Concerning future profession, health represents the most indicated profession followed by biological sciences.

In summation, the LMC CSTEP Program has achieved gender parity and has broadened its ethnic diversity with one exception.

Program participants continue to pursue health professions, related clinical sciences, and the biological sciences. The strongest aspects of the program are the tutoring, mentorship, career fairs/ workshops, and graduate school/research opportunities plus the enrichment activities. Also, Day of Service continues to get major support. Meanwhile, the overwhelming majority of students are extremely satisfied or better with CSTEP feeling more motivated and focused.

Ultimately, numbers tell only one part of the story. The students' sense of accomplishment and pride in being a CSTEP student cannot be quantified and will carry them forward as they continue in their careers and life.

**CSTEP Service Learning Grant:** adding to our positive impact, in 2011-2012, the CSTEP Program was selected to participate in a *Learn and Serve Higher Education Grant* (\$50,000) awarded by the Corporation for National and Community Services to the Graduate Center of the City University of New York. This grant, with its technical assistance, allowed us to further infuse service-learning into our CSTEP program. This grant accelerated the already strong experiential learning component.

**CSTEP CACGP Grant;** in addition, in 2012-2013, LMC's CSTEP was selected to participate in the College Access Challenge Grant Program funded by Higher Education Services Corporation (HESC). The \$50,000 contract was intended to serve fifty (50) students; however, our enrollment consisted of 120 students while being extended to over 500 individuals in the areas of: College Access, Exploration and Financing (419 participants); Academic Assessment and Preparation (372 participants); two College preparatory classes (91 participants); and Professional Preparation (372 participants).

***In addition, our current programmatic model has achieved positive student outcomes because the following conditions were met and exceeded, thus demonstrating institutional expertise in serving this population:***

- The retention rate was projected at 80% but has consistently been at 88%-92%.
- We have been fully enrolled or over-enrolled and the caliber of students and their goals/objectives are reflective of the CSTEP mission.
- We instituted a weekly speaker series which encompasses academic and professional development, not to mention endless opportunities for mentorship and networking.
- We instituted many cost saving measures, such as eliminating funding to support staff and in turn, this money was used to support our speaker series, Kaplan classes and textbooks.
- 90% of students have attended a graduate school presentation and 60% of our juniors/seniors have taken a Kaplan class to increase their success rate.
- Our office does not follow traditional hours; instead, it's open and staffed at nights until 9:00 p.m. and is open on weekends during final exam week.
- Since the beginning, we have added and been fortunate to have MSW graduate interns who have been monumental in helping us to exceed expectations.
- We exceeded Day of Service activities exponentially via our 25<sup>th</sup> CSTEP/STEP celebration on campus, our CACGP and service-learning grants and shadow day and other outreach activities.
- We instituted an academic workbook and curriculum on Excellence in Ethics which was accompanied by training from an expert, Dr. Matthew Davidson.
- The academic contract mirrors this theoretical approach and includes a signed contract which is a “playbook” for the semester.

- Another initiative is our end-of-semester satisfaction survey. The feedback received has been crucial in assessing whether program activities meet student satisfaction.

**The next 5 years:**

Building upon our experience in the current grant cycle, the LMC program intends to support 68 students from the following

Undergraduate Degree Programs: Accounting, Biochemistry, Biology, Biological Sciences, Biochemistry, Chemistry, Computer Science Education, Engineering, Environmental Science Systems, Environmental Studies, General Science, Information Systems, Mathematics, Nursing, Physics and Psychology.

The program will seek:

- To serve students underrepresented in STEM disciplines.
- To enhance the personal, academic, career, professional, leadership and social skills necessary for the future success of historically underrepresented students in STEM careers.
- To provide support that encourages students to achieve high academic success especially in rigorous coursework in STEM majors.
- To provide experiences that will excite students about STEM study and careers and inform them about the coursework and experience necessary to pursue these careers.
- To provide students the opportunity to prepare for careers in science, mathematics and technology by participating in research, internship placements and professional conferences.
- To build a seamless STEM pathway for students to facilitate the successful transition from secondary to post-secondary education and undergraduate to graduate education through improved recruitment and retention efforts and graduate test preparation.

- To help make the institutional change necessary to build a positive, supportive, and empowering environment for historically underrepresented STEM students in higher education institutions.