# Report on Highlander Early Start Academy Participants for Summer 2016

This brief provides a report on the Highlander Early Start Academy (HESA) at the University of California, Riverside (UCR) for students that participated in the summer of 2016. HESA allows incoming UCR freshmen to complete preparatory English or math during the summer quarter so that they may begin college-level calculus or English coursework in their first fall quarter.  HESA students enroll in a preparatory English (ENGL 004) or math course (MATH 005 or MATH 006A) for a total of eight or nine units during the summer. They also attend Early Start Seminars, which focus on college success skills, and participate in peer mentor led community building activities. The appendix shows demographics for HESA participants and all incoming freshmen. Using course and student data from the summer and fall terms of 2016, several observations can be made:

- All HESA students earned a significantly higher course grade than incoming freshmen who took the same English course in the fall. For MATH 005 and MATH 006A, HESA students earned comparable grades to incoming freshman who took the same course in fall.

- During the summer of 2016, UCR solicited a large number of applicants so that the limited spaces in HESA could be filled by random selection (in order to control for selection bias). A total of 332 students applied, and 134 students were accepted. HESA students earned significantly higher grades in ENGL 004 than applicants who took the course in fall. They earned similar scores to applicants for both of the Math courses.

- Overall, 67% percent of HESA students (90 of 133) met the criteria to earn the scholarship (fall GPA greater than 2.5 and enrollment in 15 units or more). The scholarship group earned higher course grades, especially those in the Math courses. All these differences are statistically significant.

- In terms of student demographics, he HESA cohort has more women, Latino/a students, and first generation students than the rest of the freshmen class. A larger percentage of the HESA students declared a major in CHASS than in the general freshmen population. Comparing HESA students across the courses that they selected, the MATH 006A group has the highest high school GPA and the highest academic index, while the ENGL 004 group has the lowest. The ENGL 004 group has the highest percentages of women, Latino/a students, and first generation students.

Table One: Mean course grades for various groups (with number of students in parenthesis) with significance testing for differences between all HESA students and freshmen who took the same courses, between students who applied to HESA but did not participate, and between HESA students who earned a scholarship and did not.

| | English 004 Grade | Math 005 Grade | Math 006A Grade |
|---|---|---|---|
| Freshmen in Same Courses | 2.05** (1,465) | 2.80 (553) | 2.82 (18) |
| All HESA | 2.40** (70) | 2.90 (45) | 2.82 (18) |

Note: ** $p < 0.05$, two-tail test

| | English 004 Grade | Math 005 Grade | Math 006A Grade |
|---|---|---|---|
| Applied but did not Participate | 1.98** (146) | 2.86 (25) | 2.52 (27) |
| All HESA | 2.40** (70) | 2.90 (45) | 2.82 (18) |

Note: ** $p < 0.05$, two-tail test

| | English 004 Grade | Math 005 Grade | Math 006A Grade |
|---|---|---|---|
| HESA Scholarship | 2.67** (40) | 3.35** (34) | 3.00** (16) |
| HESA No Scholarships | 2.05** (30) | 1.52** (11) | 1.35** (2) |

Note: ** $p < 0.05$, two-tail test

## Appendix: Demographics of HESA Participants and all Incoming Freshmen

| | All HESA (n=133) | All Freshmen (n=2525) |
|---|---|---|
| High School GPA | 3.59 | 3.62 |
| Academic Index[1] | 4052.43 | 4073.34 |
| Female | 66.17% | 60.32% |
| Male | 33.83% | 39.68% |
| Unknown | 0.00% | 1.86% |
| African American | 10.53% | 6.65% |
| Native American | 0.00% | 0.28% |
| Latino/a | 66.17% | 53.23% |
| Asian | 18.80% | 28.28% |
| Caucasian | 4.51% | 9.70% |
| First-generation[2] | 78.20% | 67.72% |
| Engineering | 8.27% | 9.39% |
| Arts, Humanities, Soc. Sci. | 50.38% | 36.99% |
| Natural Sciences | 41.35% | 53.62% |
| | **All HESA** | **All Freshmen** |
| Five most common majors | Biology (15.79%) | Biology (22.26%) |
| | Pre-Business (10.53%) | Pre-Business (7.76%) |
| | Psychology (6.77%) | Biochemistry (7.68%) |
| | Biochemistry (6.02%) | CHASS Undecl. (6.02%) |
| | Sociology (6.02%) | Psychology (5.98%) |

| | English 4 (n=70) | Math 005 (n=45) | Math 006A (n=18) |
|---|---|---|---|
| High School GPA | 3.53 | 3.63 | 3.77 |
| Academic Index[1] | 3941.04 | 4207.69 | 4097.44 |
| Female | 68.57% | 66.67% | 55.56% |
| Male | 31.43% | 33.33% | 44.44% |
| Unknown | 0.00% | 0.00% | 0.00% |
| African American | 11.43% | 11.11% | 5.56% |
| Native American | 0.00% | 0.00% | 0.00% |
| Latino/a | 78.57% | 55.56% | 44.44% |
| Asian | 7.14% | 26.67% | 44.44% |
| Caucasian | 2.86% | 6.67% | 5.56% |
| First-Generation[2] | 85.71% | 68.89% | 72.22% |
| Engineering | 1.43% | 22.22% | 0.00% |
| Arts, Humanities, Soc. Sci. | 80.00% | 17.78% | 16.67% |
| Natural Sciences | 18.57% | 60.00% | 83.33% |
| | **English** | **All Math** | |
| Five most common majors[3] | Pre-Business (14.29%) | Biology (26.98%) | |
| | Psychology (11.43%) | Biochemistry (11.11%) | |
| | Sociology (11.43%) | Cell, Molecular, and Dev. Bio. (7.94%) | |
| | Pol. Science (8.57%) | Bio. Engineering (6.35%) | |
| | Biology (5.71%) | Neuroscience (6.35%) | |

[1] Academic Index is a composite measure used in admissions decisions. It is calculated from high school GPA, standardized test scores (SAT/ACT), number of college preparatory courses taken beyond the minimum (A-G requirements), eligibility status and UC admission preferences for first generation and low income college students.

[2] First Generation is defined as neither parent holding a four year degree.

[3] Majors with less than five students not reported to preserve confidentiality.