



ASSESSMENT IN PARADISE: Using Data to Drive Undergraduate Geoscience Initiatives and Programmatic Changes



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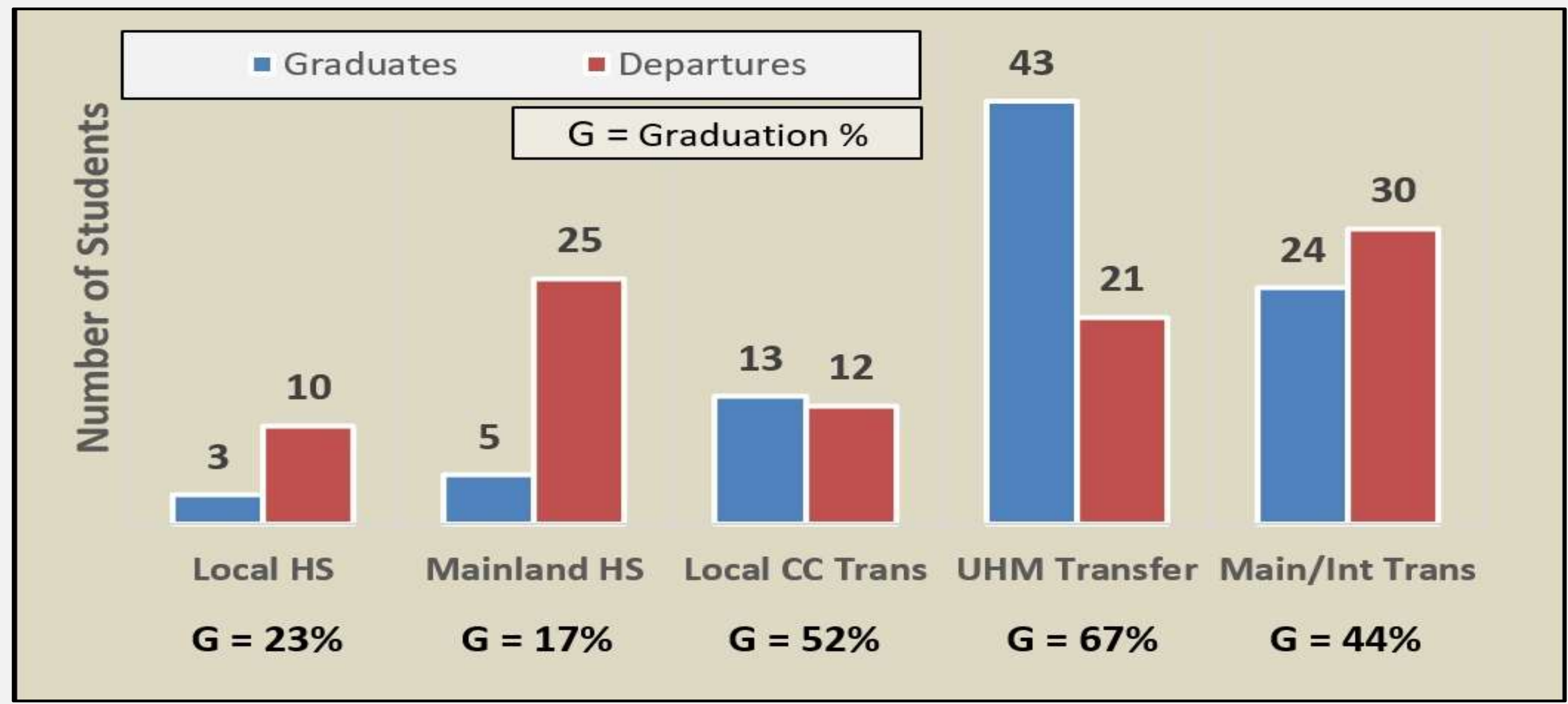
ABSTRACT A review of Global Environmental Science (GES) Program data from 2009 to 2016 revealed three issues related to recruitment, retention, and engagement.

Our response included the following:

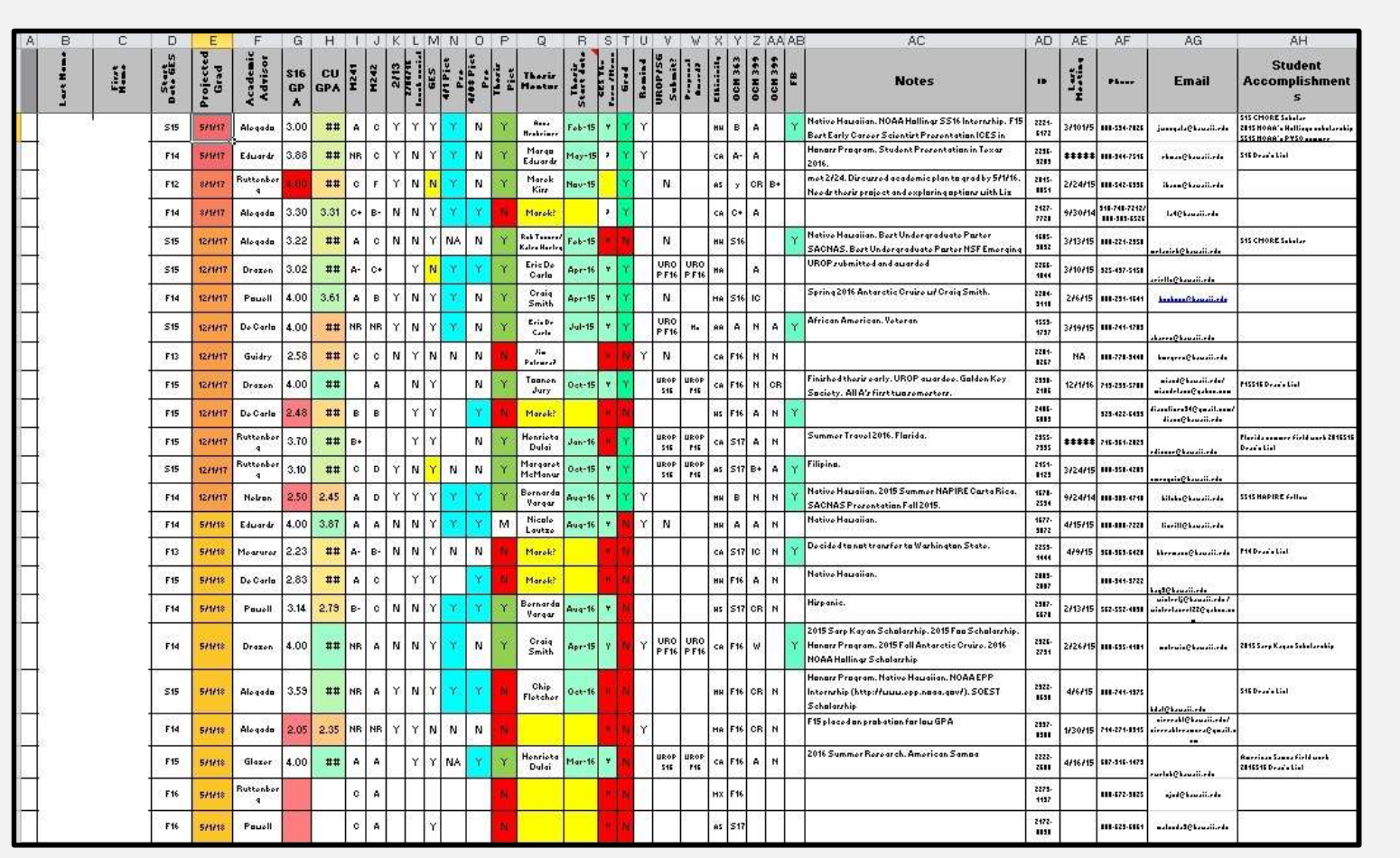
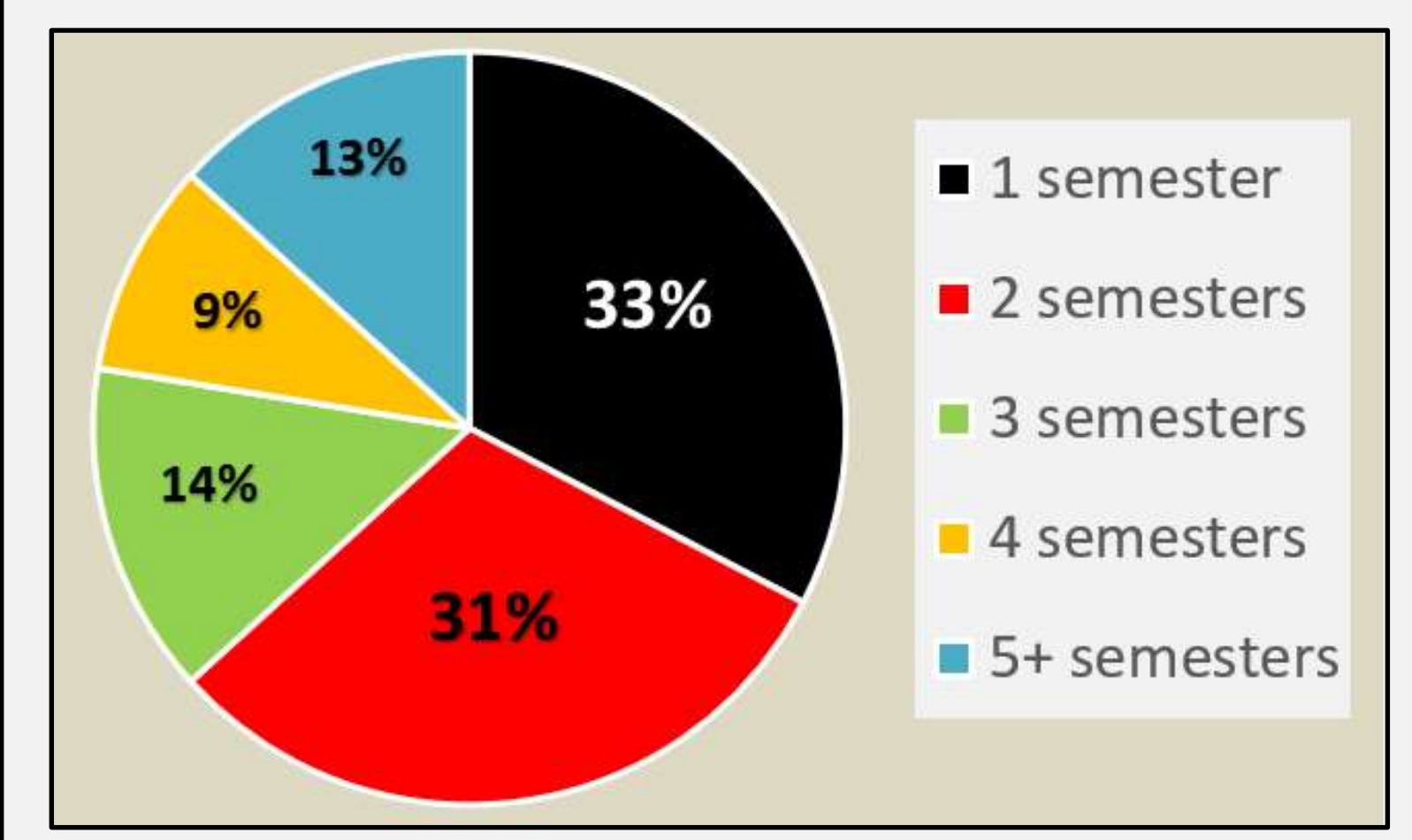
- (1) Tracking, support, and programs for first year students;
- (2) Earlier engagement in geoscience-related coursework and research; and
- (3) A geoscience pathway from the local community colleges (CCs) to UHM/SOEST to increase recruitment, retention, and graduation rates of geoscience majors, in general, and Native Hawaiians (NH) in particular.

PROGRAM GRADUATIONS & DEPARTURES

2009 to 2016
Total Students (185)
GES Graduates (88)
GES Departures (97)



ISSUE 1: 64% OF DEPARTURES LEAVE IN FIRST YEAR



GES Departures:
64% Occur Within 1 Year

Academic "Health"
Metrics Dashboard

SOLUTIONS & IMPLEMENTATION DATE:

- Dashboard to track/measure student academic "health" metrics (Spring 2015)
- Use GradesFirst: a web-based early-alert monitoring system connecting students, academic advisors, and student support services (Fall 2016)
- Implement learning community course cluster for entering 1st year students (Fall 2017)
- Every semester offer OEST 100 (The College Experience) focusing on study habits, academic planning, etc. (Fall 2016)

MOVING FORWARD

For the next five years, we will track and report the outcomes of these various efforts using the results to refine, as needed, the various approaches.

ISSUE 2: WHY DO STUDENTS TRANSFER FROM GES?

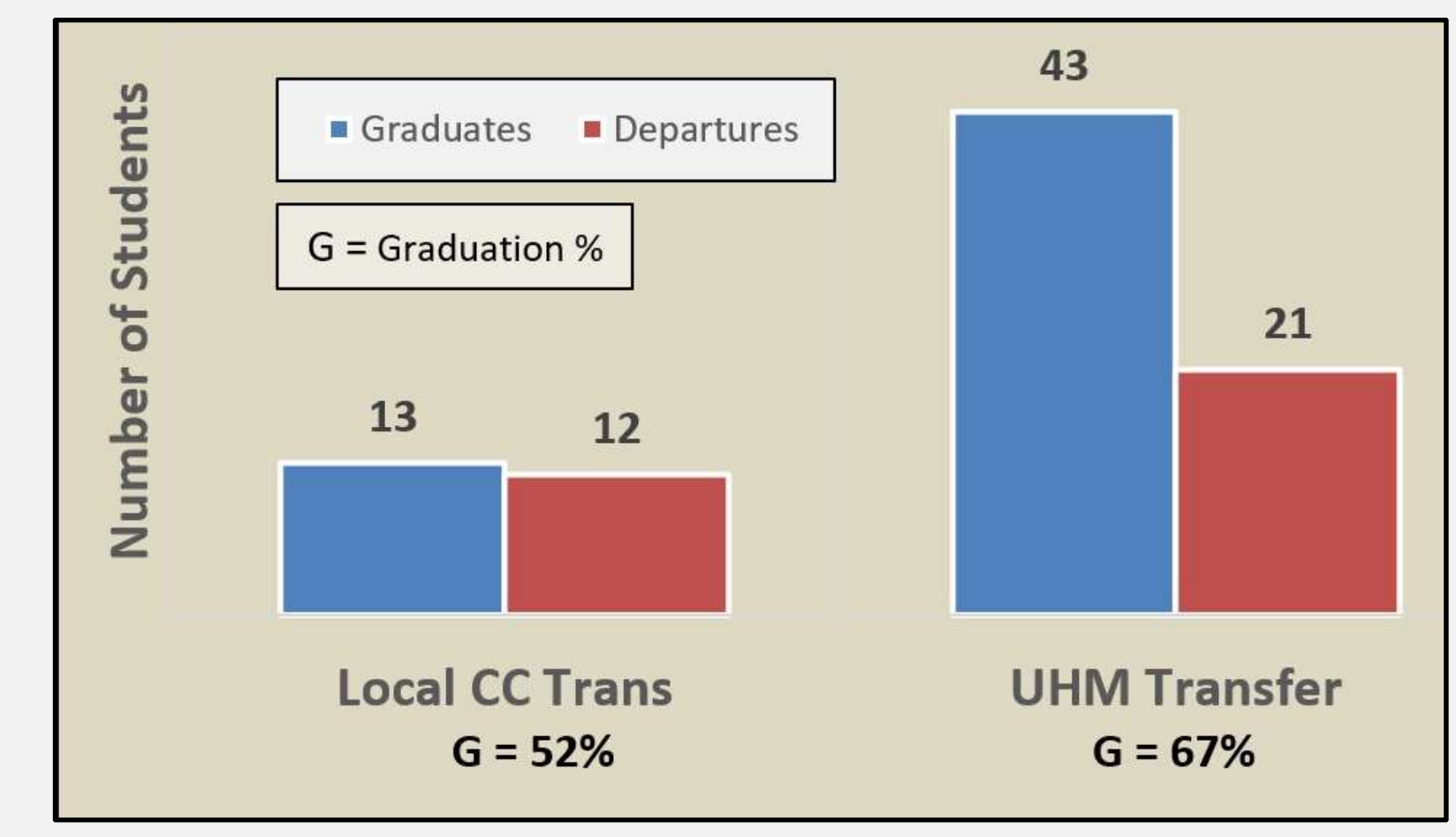
- 1 of 3 GES departures did not take a GES-specific course before leaving
- 75% of coursework taken during first four semesters is outside of SOEST/GES

We hypothesize that students require earlier opportunities to engage in research and exposure to environmental science topics that excite them to stay in the major

SOLUTIONS:

- Offer OCN 100 (Introduction to Research) every semester to expose 1st year majors to research opportunities (Started 2014)
- Offer OCN 399 (Finding Research Project) every semester to facilitate engagement of 2nd year majors in faculty-mentored research experiences (Started 2015)

ISSUE 3: LOW NATIVE HAWAIIAN & CC TRANSFERS TO SOEST



- 14% OF UHM STUDENTS ARE NH
- AND
- 25% OF UHCC STUDENTS ARE NH
- BUT ONLY
- 3% OF GES GRADUATES ARE NH
- CURRENTLY
- 10% OF GES MAJORS ARE NH

SOLUTION: Five Year (2016 to 2021) NSF-FUNDED EFFORT (TCUP-PAGE) BETWEEN UHCCS AND UHM

- 6 week UHM summer residential oceanography course infused with Native Hawaiian knowledge and indigenous science
- Summer math bridge in pre-calculus/calculus at CCs
- Geoscience specialists providing student support services to ensure the greatest likelihood of students' academic success
- Implement environmental science academic pathway from UHCCs to UHM
- Supports existing Maile Mentoring Bridget facilitating UHCC NH transfers to SOEST & UHM