Representatives of all seven UHCC ASNS programs met on October 29 and November 5. Attached you will find responses to the initial questions posed by facilitators to the program faculty, responses to those questions, as well as details which seek to capture the richness of the group’s two meetings. For your reference, the list of program faculty representatives is below.

Campus Representatives:
- Pamela Scheffler (HAWCC)
- Mario Mediati (HONCC)
- Amy Patz Yamashiro, Herve Collin (KAPCC)
- Stephen Taylor (KAUCC)
- Chia Shih, William Albritton (LEECC)
- Buddhi Rai, Elisabeth Dubuit, Sean Calder (UHMC)
- Dave Krupp, Hongwei Li (WCC)
Summary of ASNS All Campus
Program Convening

1. Would your campus like to keep their ASNS program?
   Yes ___X______ No ___________
   All Campuses: HAWCC, HONCC, KAPCC, KAUCC, LEECC, UHMC, WCC

2. If your campus no longer wants to retain the ASNS, what would take its place?
   N/A

3. What challenges does the ASNS program face on your campus?
   • Low-enrolled 200-level courses and physics; Two-campus model with small student body; lack of facilities; inability to offer full range of required classes; students transfer rather than graduate; low graduation rate (HAWCC).
   • Low enrolled classes; high attrition, low graduation rates; ridiculous ARPD criteria for assessing programs (HONCC).
   • ARPD data is not always accurate and at times undercounts graduates and transfers; ASNS Computer Science has a name issue (ICT” misrepresents the degree and negatively impacts enrollment in the program); No dedicated ASNS counselor is assigned and we have 400+ students to advise (KAPCC) (KAUCC concurs…there are issues with accuracy of some metrics).
   • Low-enrolled courses; teaching science lectures & labs online during the pandemic (LEECC).
   • Very low enrollments in Engineering and calculus-based Physics classes. Offering lab classes in 100% online format. Some outcomes require hands-on activities in the lab to be effectively achieved; Low graduation and transfer rates (WCC).
   • Needs to increase Native Hawaiian enrollment, graduation, and transfer; Ensuring that students are set up for success in their respective BS programs; Low enrollment in MATH 244 and lower-division Engineering specialty courses [EE courses at KauCC were grant funded, bringing down efficiency numbers. Now, we simply can’t offer courses engineering students’ needs, which brings down our graduation numbers.] (Kauai CC).
• Low enrollment in some courses. E.g., Second semester Organic Chemistry II with lab (CHEM273/273L), but there are other (second semester) courses that sometimes fall under low enrollments. Note: We expected low enrolled courses as the ASNS program developed in around 2013/14. The AA in Liberal Arts was never a good pathway for STEM majors; Low graduation rate with ASNS degree: Regarding this point, most students enrolled to take classes to transfer before they complete the ASNS degree; A few examples of low enrolled classes are organic chemistry and calc III/IV (Maui).

SUMMARY of CHALLENGES
• ICT is difficult for students to understand and to recruit in (rather than ICS).
• Lack of recruitment and retention activities.
• No dedicated ASNS counselor for recruitment and retention (KAPCC, WINCC).
• Low enrollment in 200 level courses (CHEM 272/273, Engineering, PHYS 272, PHYS 274, Calc III IV).
• Some students have to drop out due to not qualifying for sufficient FA, but not financially able to continue their studies.
• Tracking: we are not following the students. Don’t have the data to see if the students have been successful in graduating with a bachelor’s degree. Only through reverse transfer, we get that information that they finished the ASNS.

4. Ideas for reducing costs of the ASNS program
• Move more lower-division courses from 4-year UH campuses to CCs; more shared administrative duties; consolidate low-enrolled classes through DE (HAWCC).
• Combining low enrolled classes among campuses (HONCC)
• Resolve the issue of low-enrolled classes by instituting a rotation that would allow different campuses to offer the upper level courses (This rotation should be based on an analysis of past enrollment trend data); Eliminate barriers to students registering for courses at different campuses; (KAPCC).
• Work with other CCs in rotating course offerings for low enrollment courses; Streamline ASNS programs across CCs (LEECC).
• Coordinate with other O‘ahu campuses the offering of lab classes requiring face-to-face components (especially those that may often be low-enrolled at one or more campuses): perhaps alternating these classes among these campuses; or one or more campuses gives up teaching these altogether with all campuses coordinating scheduling to accommodate student needs; Some campuses may need to give up offering classes that are chronically low-enrolled, especially if these classes are offered 100% online at another campus (WCC)
• Devise a system to offer lower-division engineering specialty courses online via a rotating assignment schedule in the UHCC system that distributes the teaching load in a fair but logistically and financially sustainable way, specifically: CEE 270, CEE 271, (one or more of EE 160/ICS 111/EE 110), EE 211, EE 213, EE 260, EE 296, and ME 213. By taking the online courses, there is reasonable access to essential lab resources at the nearest CC to their home, regardless of which campus is hosting the online course (Kauai CC).
• Offer MATH 253, which combines MATH 243 and MATH 244 (Calc 3 and 4) content into one course. This effectively eliminates MATH 244, which was especially low-enrolled
• Apply for multi-year external funding to support the increase of NH students in STEM through a new AESC concentration of the ASNS; and/or study impacts of accelerated math on ASNS graduation and pilot a STEM cohort model (Kauai CC).
• Need to adjust low enrolled classes and have been low enrolled for at least 3-5 years. These courses should be looked at closely to see if there really is a need for them anymore and how often they are needed; Adjust interdepartmental full time faculty duties instead of hiring lecturers. e.g., Physics department at UHMC has six courses and the astro department has only one course. The physics department can request astro faculty to teach the physics courses that were covered using lecturers; Lecture part of the low enrolled classes can be offered anywhere but the labs need to be f2f on campus even with the anticipated low enrollment; Collaborate on-line teaching with other institutions to cut costs; Consolidate course offerings with another campus in rotation, establish agreements between the identified campuses for clarity (Maui).
SUMMARY OF COST REDUCTIONS

- Some campuses may need to give up offering classes that are chronically low-enrolled.
- Consolidate low-enrolled classes through DE, rotating offerings at different campuses.
- Offer lower-division physics, engineering, or other specialty courses online via a rotating assignment schedule in the UHCC system.
- Coordinate with other O`ahu campuses that offer lab classes requiring face-to-face components.
- Adjust interdepartmental full time faculty duties instead of hiring lecturers/ or underloaded faculty at one campus could teach a course at another campus instead of hiring a lecturer.

5. Strategies for increased retention and recruitment of ASNS students.

- Add more transfer options (more tracks); increase High School Bridge Programs (and Early College Connections, WCC + KAUCC); Have a First-Year-Experience course in first semester (HAWCC + KAUCC).
- Cohorts of students; closer cooperation between CCs and 4-year institutions (HONCC)
- Our campus has made efforts to institutionalize URE. These need to be continued and enhanced. URE has been shown to improve student transfer and graduation rates and also matriculation in graduate studies. URE increases engagement and fosters a sense of belonging on campus. It also is important for continuing to be competitive for federal grants; We need to remain competitive for scholarship grants such as S-STEM as well as other grants that support students (Indirect costs of grant funding should be invested back into our programs so that we remain competitive); Request for a full-time assigned ASNS counselor (KAPCC).
- Inform new students of the ASNS Programs; Show clear program pathways to UHM, UHWO, UH Hilo or other universities (LEECC).
- Recruitment: expand ASNS into Early College programs; add an AS-Natural Science concentration in Agricultural and Environmental Science (AESC) as suggested by KauCC to provide more options for students; establish an ASNS-specific counselor; enhance marketing,
including community and high school STEM outreach activities; **Retention**: shorten the math pathway through math classes that are prerequisites to ASNS classes (like KauCC approaches); establish a two-year (perhaps longer) schedule for classes leading to the ASNS so students know how best to plan their path through the ASNS; coordinate with other campuses in planning this advance schedule; establish an ASNS-specific counselor; more tutors, peer mentors and Sis (WCC + KAUCC).

- Advise and track students to look for and remove logistical barriers to graduation; ensure STAR GPS functions correctly; Continue and study Accelerated Math: find ways to expand and optimally target 8-Wk/8-Wk courses, e.g. (MATH 241/MATH242). Preliminary success rates have been insanely good, especially compared to the full semester counterparts; Automate reverse transfer; Form a local advisory board of engineers, scientists, students, and community leaders to advise and work with the program; Encourage more universally-accepted lower-division courses for transfer to a variety of programs; Market ASNS: at local High Schools; develop relations and collaborate with HS science instructors and counselors; Market ASNS to the community and parents (Kauai CC).

- Need to push for more early admission for high school students; Can use Kauai Calc III course offering model: "This course is intended to follow MATH 242 (calculus II) and covers the topics from MATH 243 (calculus III) and MATH 244 (calculus IV) in a single semester."; The DOE has had a teacher shortage state wide for years. This is most obvious in the STEM fields. It would benefit both the DOE and the UH system to work together to bring more junior and senior high students to the college for classes. This would help the DOE in not having to hire more teachers and they could use some of that money to help pay for these students to take our classes. The teachers they have can focus on the students in younger grades or those not yet ready for college level classes (Maui).

**SUMMARY of PROPOSED STRATEGIES TO INCREASE ASNS STUDENT RECRUITMENT & RETENTION**

- Increase High School Bridge Programs.
- Increase URE STEM courses (such as SCI 295) at the UHCC’s.
• Expand ASNS courses into Early College programs (especially math).
• To address lack of recruitment activities, market ASNS at local high schools, develop relationships and collaborate with HS science instructors and counselors; market the ASNS program to the community and parents.
• Advocate for more early admission for high school students in STEM courses at the UHCCs through Running Start.
• Need an ASNS counselor for recruitment and retention (KAPCC, WCC).
• All the UHCC campuses agree that the program title ICS should replace ICT.
• Reduce barriers for students taking classes at other UHCC campuses (such as student activity fees).
• Look into ways of supporting students who have to drop out due to not qualifying for sufficient FA, but not financially able to continue their studies.
• Investigate how to track students’ success once they transfer to STEM bachelor degree programs.