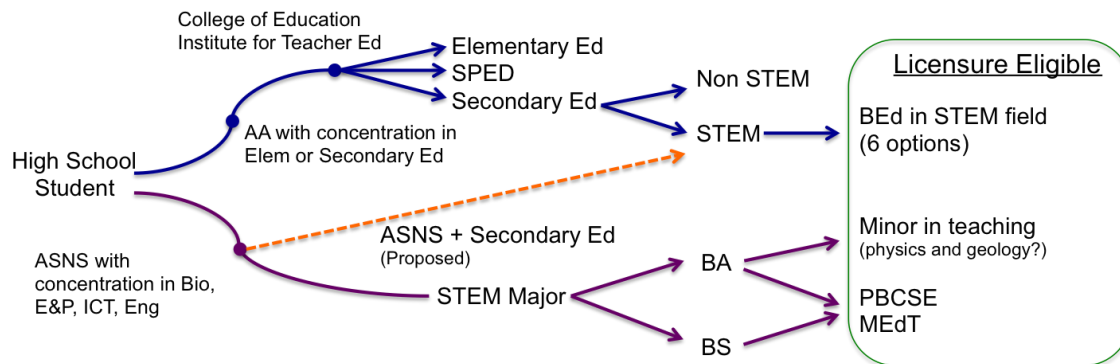


STEM Teacher Preparation: ASNS + Secondary Education Options

There is a shortage of highly qualified STEM teachers in the state of Hawaii. The goal of this initiative is to create a transfer pathway to produce more licensed secondary education STEM teachers and address the shortage of STEM teachers.

Because the Associate in Science in Natural Science (ASNS) degree offered at all the community colleges is the fastest growing degree in the system, there is ripe opportunity to evaluate ways to incorporate teaching and exposure to education into the STEM curriculum.

Current Pathways for Preparing for Licensure in Secondary Education in STEM field:



ASNS + Secondary Education:

Creation of an ASNS + Secondary Education pathway is a new initiative to entice more students to pursue secondary teaching in STEM fields. In the case of KapCC, an Associates of Arts in Liberal Arts with a Concentration in Secondary Education is available and includes 6 specific secondary education courses. There is a pre-existing MOA with College of Education that allows students who complete this AA program in its entirety would be accepted into the College of Education licensure track.

Thus, the purpose of creating this ASNS + Secondary Education pathway is to build off the existing MOA and provide a transfer pathway for students to pursue STEM and teaching at the same time. For this program to work, the required core STEM courses (Math 205, Chem 161/L, 162/L, Bio 171/L, 172/L) remain the same, but the 6 secondary education courses are taken as electives to fulfill requirements for the College of Education MOA. The STEM core courses and 6 secondary education courses align and articulate nicely with the Bachelor of Education (BEd) in Secondary Teaching with the many STEM specializations. Thus, if students complete an ASNS degree and the 6 courses, they would be automatically accepted into the College of Education BEd program.

In creating this ASNS + Secondary Education initiative, there are two options to organize this pathway:

- 1) Create a 5th separate concentration in STEM Secondary Education within the ASNS program; or
- 2) Integrate the 6 teaching courses as electives within the 4 concentrations

To consider each of the possibilities, SWOT analysis was performed to illuminate all aspects of the options.

Creation of a 5th ASNS Concentration:

Strengths	Weakness
<ul style="list-style-type: none"> - Easier to highlight the link between STEM disciplines and teaching - Elevates importance of STEM teacher preparation 	<ul style="list-style-type: none"> - Requires the creation of a new program sheet - Needs approval of curriculum committee - Requires more work - Separates out STEM teaching as a distinct STEM discipline
Opportunities	Threats
<ul style="list-style-type: none"> - Can create campaign around the 5th pathway 	<ul style="list-style-type: none"> - Adding another concentration may become overwhelming for students to navigate the options - Perception of failure (switching to separate concentrations)

Integrate Teaching Courses into ASNS:

Strengths	Weakness
<ul style="list-style-type: none"> - Stronger association between STEM and teaching (teaching is part of STEM from beginning) - Overlaps with existing MOA between KapCC and C of Ed - Requires just small changes to the program sheets to include 	<ul style="list-style-type: none"> - Harder to explain to students - Requires more counseling for students
Opportunities	Threats
<ul style="list-style-type: none"> - Students can see teaching as viable option on program sheets - Seamless integration with Bio/ICT/Phys 	<ul style="list-style-type: none"> - More difficult to integrate teaching electives into Engineering - All or nothing articulation with College of Ed?