

Project Proposal 2016 - 2017  
Newport High School Integration

**i. Cost**

One of our main goals we hope to achieve during this plan is to build an efficient aquaponics system with minimal cost involved. We will try to build our own water pump, plant holder, and trays.

**ii. Objectives**

Our goal is to educate fellow students about sustainable food production with aquaponics, and then provide an opportunity for them to build the systems themselves.

**iii. Time/resources required by all people**

September: few meetings for building the system

Data collection every day during in-school tutorial

**iv. Why it should be done**

Food security is a global issue that will rise even more so in the future, and the concept that ISB holds about an aquaponics system is an optimal solution for this problem. It is crucial to educate students at a young age such as ourselves about this system to extend this knowledge and values to the communities they encounter in the future.

**v. Description of the project**

In the fall, we will construct our own aquaponics system to place in the AP Environmental Science classroom. Throughout the year, the aquaponics system can be pointed to as an acting model of the nitrogen cycle and other ecological concepts, piquing student interest alongside curriculum. Food produced with the system will be donated to the school's culinary program.

After the AP Exam in May, the APES classes have a bonus project opportunity. This year, we will coordinate with the teacher to offer aquaponics as a project possibility. The students can then build their own systems, with us as a resource for help and information.

**vi. Academic advisor involved**

Ms. Doran, Biology and AP Environmental Science teacher

**vii. Number of students impacted**

It will impact the students in the AP Environmental Science and Biology classroom (about 120 students)

**viii. Location of system**

Back of Ms. Doran's room

**ix. Class/units addressed with this project**

Our integration plan does not include a classroom project explicitly, but using the model that we built in the classroom, the teacher could allude to the system while teaching the following topics:

nitrogen cycle, water cycle (in a smaller scale), plants' nutrient need, water chemistry, and all topics related to agriculture: salinization, desertification, monoculture, pesticides, agricultural runoff, fertilizers, and more. These are all topics within the AP Environmental Science curriculum.

**x. Timeline**

September: Project feed interns install aquaponics system in classroom

During the school year: The aquaponics concept can be used any time during the school year for topics shown above.

After AP testing: students are given the option to build their own aquaponics/hydroponics system as their finals project.