SENIOR DESIGN – 2018-19

Project Qualification Form

The following students:

Member Name and email*	Program†	Student ID	Signature (real in ink, digital, Acrobat, or attached email are all acceptable)
Steven Ngan, sjn36@drexel.edu	ECE, Electrical Engineering	13589910	Steven Ngan
Yoshin Govender, yg353@drexel.edu	ECE, Electrical Engineering	13634935	Yoshin Govender
Anthony Santoro, acs385@drexel.edu	ECE, Electrical Engineering	13058573	Anthony Santoro
MIchael Barnes Mrb372@drexel.edu	ECE, Electrical Engineering	13520499	Michael Barnes

Request approval of a Senior Design Project entitled:

Self-Automated Violin Tuner

Advisors

Primary Advisor and email	Affiliation	Signature	Date
Co-Advisors	**Affiliation**	**Signature**	**Date**

* Groups requesting to have more than 4 members must supply a written letter of justification signed by their advisor

† Here "Program" refers to EE, CE, MEM, etc.

1. Description of the proposed project (one paragraph):

The project will be a self-automated violin fine tuner that will tune each string of a violin to its intended pitch more quickly and more accurately than a human can. This tuner will recognize the intended note (via frequency in Hz) one is trying to tune to, and physically move the fine-tuners that are located on its tailpiece to the appropriate positions.

2. List the following (bullet points for each):

A) Objectives

- To design and create a self-automated violin fine tuner that is projected towards younger beginner violinists or other string musicians.
- This tuner will be simple for younger students to use. It will be a handheld device that will be used across different stringed instruments. (Violin, Viola, Cello)

B) Design Elements

- Lightweight
- Different tuning profiles to suit multiple stringed instruments. (Strings: G, D, A, E for Violins and C, G, D, A for Viola, Cello, Bass instruments, etc.)
- Can work accurately in a loud environment
- Will cease adjustments if the tuner screw is used up via torque control
- Delicate to all violins so no potential scratching

C) Measures of Success

- Speed
- Accuracy
- Usability and convenience

D) Deliverables – (all possible technical for this project)

- The device itself
- A full, technical evaluation of its capabilities
- A field test and demonstration
- A review of the prototyping stages

3. What is your decision methodology (one paragraph)?

The device will be designed through a requirements-forward methodology. We will start by determining the end-product features that we want and rank them by importance. Then, we will develop a task tree for each to figure out which are needed, and which can be done in the time frame that we have.

4. Funding

A) How much do you estimate the project will cost?

- $500.00

B) Do you have any sources of funding already lined up? (for example, faculty advisor research funding, or company sponsorship)

No.