



Company Information

Company Name	<i>Electrolux</i>	Date Submitted	<i>11/03/2021</i>
Project Title	<i>Noise Reduction of Residential Dishwasher (ELEC_NOISE)</i>	Planned Starting Semester	<i>Spring 2022</i>

Senior Design Project Description

Personnel

Typical teams will have 4-6 students, with engineering disciplines assigned based on the anticipated Scope of the Project.

Please provide your estimate of staffing in the below table. The Senior Design Committee will adjust as appropriate based on scope and discipline skills.

Discipline	Number	Discipline	Number
Mechanical	3	Electrical	1
Computer		Systems	1
Other ()			

Company and Project Overview:

Company: Electrolux shapes living for the better by reinventing taste, care and wellbeing experiences, making life more enjoyable and sustainable for millions of people. As a leading global appliance company, we place the consumer at the heart of everything we do. Through our brands, including Electrolux, AEG, Anova, Frigidaire, Westinghouse and Zanussi, we sell more than 60 million household and professional products in more than 150 markets every year.

Electrolux has been doing business since 1919. The global headquarter is in Stockholm, Sweden and its North American headquarter is in Charlotte, NC. The following products are sold in North America under the Electrolux and Frigidaire brand.



Project: The senior project will focus on designing a dishwasher that will have superior sound levels to competitor dishwashers at the same price point.

Project Requirements:

The project will follow this process:

- 1) Measure sound levels of leading competitors and current Frigidaire dishwashers. All models will be at a similar price point
- 2) Determine the sound level target based on competitor performance
- 3) Develop prototype with improved sound levels (iterative design stage). Prototype will be built using a Frigidaire dishwasher.
- 4) Develop the design until it can achieve a statistically significant improvement over competitors
- 5) Present prototype and results at senior design expo

Sound level testing will follow the industry standard test method and will be performed on site at the Charlotte Tech Center in a semi-anechoic chamber. The senior design team will be assisted by an Electrolux test technician.

Expected Deliverables/Results:

- Competitor benchmark data
- Prototype Frigidaire dishwasher with superior sound performance
- Data to support superiority

Disposition of Deliverables at the End of the Project:

The prototype, test data and all intellectual property will be delivered to Electrolux at the completion of the project.

List here any specific skills, requirements, specific courses, knowledge needed or suggested (If



none please state none):

- Interest in noise/vibration analysis and design
- Students participating on this project acknowledge that any intellectual property resulting from the project will be solely owned by Electrolux.
- Prereq of SEGR 4141 for SEGR student
- Testing will be conducted at ELECTROLUX, so students must be prepared to travel to that site as needed.