

# Chico State Capstone Design Program – Project Request Document

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**Project Title:**                      **Sample Rice Dryer**

Sponsor:                                      Lundberg Family Farms

Suggested team make-up:      Mechanical students:      60%                      Mechatronic students:      40%

## Background:

During harvest season, Lundberg receives millions of pounds of rice from many different growers. Each truckload of rice is sampled and tested to determine the quality, expected yield, and moisture content. From this sample, the future of the rice is determined (i.e. how to best handle the rice during drying, storage, and milling). The current sample drying equipment and techniques do not adequately represent the process of drying rice in bulk. If rice is not dried properly, the rice will have poor milling characteristics and become damaged during the milling process, resulting in lower yields. Quality of the rice determines the overall cost of the rice and how the rice will be processed in the drying facility. A new sample dryer will help Lundberg Family Farm’s increase the quality of the rice and reduce the chance of improper processing of rice.

## Statement of Work:

Design, build, and test an apparatus capable of drying a specified number of rice samples to the desired moisture level (%) within given parameters. The design must be capable of measuring relative humidity and temperature of the air and the moisture content of the rice. Automation of the drying cycles to specified moisture content is necessary. It is necessary to have a design that will produce the same quality rice as Lundberg’s bulk drying facility. Detailed specifications for size and capabilities will be established in consultation with the sponsor.

## Contact information:

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5311 Midway  
Richvale, CA 95974  
Business: (530) 538-3500  
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## Additional Information:

Please indicate if the project will require any of the following, or have other special circumstances.

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| <input checked="" type="checkbox"/> Non-Disclosure agreement | Students working on this project will be required to sign a standard non-disclosure agreement. Students may have to travel to Lundberg’s facility in Richvale, CA. |
| <input checked="" type="checkbox"/> Out of town travel       |  |
| <input type="checkbox"/> On site work                        |  |
| <input type="checkbox"/> Other                               |  |

## **Corporate Overview:**

Lundberg Family Farms® is a family-owned and operated business that is committed to producing the finest quality rice and rice products for your family. Since 1937, the Lundberg family has been growing healthy, great tasting rice while respecting and sustaining the earth.

Today, the third generation carries on the family heritage by using eco-positive farming methods that produce wholesome, healthful rice, rice cakes, rice chips and risottos while improving and protecting the environment for generations to come.

For more information about Lundberg Family Farms, visit our website at [www.lundberg.com](http://www.lundberg.com).

