To: Neil Cotter <necotter@ece.utah.edu>
From: Fred Johnson <fred.johnson@utah.edu>
CC: Heather Stone <heather.stone@utah.edu>
Subject: ECE 3940 Proposal - Wireless Power

Dr. Cotter:

As requested in our first session of class, I am e-mailing you this proposal for my current ECE topic of study. Please read my proposal and determine if the subject is applicable for the assignment.

While looking for a topic, I searched several journals. Two of the journals I found were on the IEEE website. Those two journals are *IEEE Transactions on Industry Applications* and *IEEE Antennas and Wireless Propagation Letters.* The first journal had articles available as PDF files dating back to 1972. The second journal was a newer journal with articles dating back to 2002. I also used Scopus to research other journals and found several more. The two journals I looked at on Scopus were *AEU - International Journal of Electronics and Communications* and *Wireless Communications and Mobile Computing.* I found that searching for articles on Scopus was not as effective since most of the articles were not available online and need to be searched for elsewhere.

After searching through the many topics available in the numerous journals regarding electrical engineering, the topic that jumped out the most was wireless power. The attached article is one I found that meets the criteria set forth in class and is about sending power to a device without wires. This is a topic I find very interesting, and I believe this is how things will be done in the future. The article that I have chosen to write my paper on is "Development and Validation of Model for 95% Efficiency 220-W Wireless Power Transfer Over a 30-cm Air Gap." In addition to reading the article, I also looked at a couple of the references listed in the article. Below are the references for the primary article and the two references I examined:

1. Seung-Hwan Lee; Lorenz, R.D.; , "Development and Validation of Model for 95% Efficiency 220-W Wireless Power Transfer Over a 30-cm Air Gap," *Industry Applications, IEEE Transactions on*, vol.47, no.6, pp.2495-2504, Nov.-Dec. 2011 doi: 10.1109/TIA.2011.2168555 URL: http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=6022774&isnumber=6082064

2. H. C. Miller "Inductance formula for a single-layer coil", *Proc. IEEE*, vol. 75, no. 2, pp.256 -257 1987

3. D. Kurschner and C. Rathge "Contactless energy transmission systems with improved coil positioning flexibility for high power applications", *Proc. IEEE PESC*, pp.4326 -4332 2008

I am looking forward to researching this topic. Please let me know if this will work.

Fred Johnson
801-664-5200
fred.johnson@utah.edu

Comment [HJS1]: These four lines represent the header block that email programs add. Note that the email is sent to Dr. Cotter, with a copy to Heather Stone. Use a subject heading that says the course number, the word "Proposal," a dash, and the name of your topic, as shown here.

Comment [HJS2]: This is a formal salutation addressed to Dr. Cotter and followed by a colon. You do not need to include the word "Dear," and you do not need to address Heather Stone by name, as she is carbon-copied rather than primarily addressed.

Comment [HJS3]: A nice clear introductory sentence.

Comment [HJS4]: The second sentence requests approval, asking specifically and explicitly for what you want, which in this case is approval of the topic.

Comment [HJS5]: Note the references to four journals, two of which are published by IEEE and two of which are not. The assignment asks you to provide information about the types of articles found in each journal, as well as accessibility of those articles.

Comment [HJS6]: He identifies the general topic that interests him.

Comment [HJS7]: He references a specific article about the topic. Note that he attaches the article!

Comment [HJS8]: He explains why this topic interests him.

Comment [HJS9]: He references two additional articles that he found by looking at the citation list in the primary article.

Comment [HJS10]: He gives citations in proper IEEE format for all three articles.

Comment [HJS11]: Fred expresses enthusiasm for the topic.

Comment [HJS12]: He restates his specific request.

Comment [HJS13]: Fred includes a polite signature and full contact information.