**ECCS 2311 Electric Circuits**

**Question Formulation Technique (QFT) Exploration Description**

**Motivation:**

 The QFT exercises completed in lab enable students to ask many questions about a circuits topic, and then analyze the questions to improve them and prioritize them. These QFT exercises are beneficial to improve students’ ability to formulate initial questions on a topic; however, further exploration can deepen the ability to formulate follow-up questions as new information is learned. Hence, we require three deeper QFT explorations out of the 12 QFT exercises done throughout the semester. Submit the exploration for the QFT done in Lab X as a hardcopy in Lab X+1.

**Assignment Description:**

 The QFT exploration should be focused on your favorite question from a given QFT exercise from lab. The question does not have to be one of the top questions the group decided in terms of priority; however, the question should obviously be a good exploratory question. This means it should be a question that you are interested to explore, there are good resources for researching the topics of the question, and the question addresses at least one meaningful aspect of the topic (the more aspects it addresses, the better). The question that is explored should be unique for each student in the group so there is no repetition in the explorations.

 The main deliverable for this assignment is a written summary of the exploration of the question (see the paper formatting details below). This summary is essentially a small technical report, where your question is viewed as the research question. It is expected that the summary should include ideas and arguments that aid to answer the question or information that helps explain how the question is still an open problem or mystery, if applicable. It is good to include additional questions that arise in the exploration research.

 Students must select at least one peer-reviewed or peer-edited technical resource, such as a journal article, conference paper, or textbook (other than our textbook) that should be cited in the exploration of your question. The source should be closely related to your question so that it is useful in your research. One hint to finding good sources for your question is to pick out key words from your question to use as search queries in one of the databases available from the library.

 Before the end of the exploration summary, include a section entitled “Source Evaluation” in which you should evaluate how you identified the source (did you use a database, what was the search query, etc.) and how well the source aided you in the exploration of your question. For example, did the source uncover the information necessary to answer the question? Did it lead to more questions (and what were they)? Did you discover concepts that sparked your curiosity through the source? This section should be at least one paragraph in length and can focus on your favorite source if you have more than one source.

**Exploration Summary Paper Format:**

* Title Page: None! Do not give a title page.
* Margins: Use normal margins (1” on all sides).
* Font: Times New Roman, 11 point font, justified.
* Paragraph Line Spacing: Set to Multiple at 1.15. Indent paragraphs but do not skip a line between paragraphs.
* Overall Length: 1 to 2 pages (Do NOT place citations on a separate page! Just skip a line & have a reference section)
* Citation Style: Chicago Style (or IEEE style; see <http://www.ieee.org/documents/ieeecitationref.pdf>).
* Type Your Name at the top, right justified
* On the next line write “Lab X: [question]” in bold where X is the appropriate lab number and your question is written.
* Boldface Section titles and underline them. Skip a single line between sections.
* It is a good idea to organize the ideas described in the summary into sections to improve readability.
* Note: All of these guidelines are used in this handout. Please print 2-sided so every submission is 1 page (front/back).
* The summaries will be graded based on quality of writing and content.
* Finally, use caution with tense (normally use present tense as you are describing the ideas to the reader now).