1. Introduction

Our purpose is to introduce you to some of the research interests of some of the EECS faculty. In addition, library research, document preparation and presentation, [12], are part of the research experience.

2. The Commands

Your duty to this class consists of preparing an proposal for your talk in the student conference, conducting the library research involved, writing your library research paper, and preparing and giving your talk. In addition, class attendance is required. A signatory will be passed around each week. If your absence is necessary, please either see me before the class meetings or else send an email as soon as the necessity of absence is known. If absolutely no other method will work, please email me.

This is a required class and has priority over any other activity on Tuesdays between 1:25 and 2:15. Be here!

3. The Library

Here are the basics; we will discuss some of the details in the second lecture, 28 August 2018. We will not meet on 04 September 2018: you are to go to the library, and prove to me that you can find one each of the following kind of publication (ideally an older one that is not available online, though that is not necessary):

(1) an IEEE conference proceeding (they are often called "Proceedings of the XXXX"),
(2) an IEEE journal (they are often called “Transactions on XXXX”), and
(3) an IEEE magazine.

To do so, make a photocopy of the cover or title page, plus the page number that corresponds to the last two digits of your WSU student ID. Turn in those two pages for each document, stapled together and with your name written on the first page.

Bring this to class on 18 September 2018.

4. Your Research

On 09 October 2018, turn in to the instructor at the beginning of class a one page proposal of your library research topic. This topic will be the basis for your short paper and your presentation at the end of the semester. The one page proposal will be prepared using \LaTeX in some form. I encourage you to use \BibTeX, [7, 10], and especially \BibTeX. Additionally, you will find a very large selection of style files, help, and other useful information at [3].

Date: 21 August 2018.
This one page proposal will include your title, your name, the description of the scope of your topic, and the bibliography of books and journal articles you will read to prepare your talk. The bibliography will include at least four items.

This bibliography will include at least one specialized book, at least one paper, or article from a conference or symposium proceedings, and at least one research, or archival, journal article. Such a journal is often called a refereed, or a peer reviewed journal. An electronic journal article in an electronic refereed journal will meet this requirement. Similarly, an electronic paper from an electronic conference proceedings is entirely acceptable. However, the specialized book cited must be an actual book and also the entire book, not just an article from a conference or symposium proceedings. The book cannot be an undergraduate textbook. Advanced graduate textbooks and research monographs are acceptable. A collection of papers, even if in book form, is not. If these criteria are not clear to you, consult the reference librarian on duty in Owen Science and Engineering Library.

The remaining bibliographic materials may be any of the above, a paper in a collection of papers, magazine or newspaper articles, or html materials [1, 2]. Be sure to give complete bibliographic data in any one, standard, proper form. The bibliographic items in this handout give one such form. The bibliographic items in the file

`cs500/tex/examples/amsart.example.tex`

are in a slightly different form. Do not mix these forms and be prepared to defend your use of form if challenged – this will be easy if you use the form of the bibliographic entries in this handout, but any standard form will suffice [8].

The latest edition of the Chicago Manual of Style, on ready reserve in the New library at the top of the hill, is purported to give a form for citation to html materials. Alternatively, use the format in the reference section of this handout.

I will approve your chosen topic if it is suitable, your proposal is comprehensible, and the bibliographic entries are complete and in a standard form, and if each of your bibliographic entries is cited at least once in your proposal.

As always, the citations in a bibliography are given in alphabetical order by the last, or family, name of the first author. See [8] for the form and placing of citations to materials authored by named groups such as companies, etc.

I will then approve the proposal document itself or else require you to prepare it once again. ...and again...and again, until there are no errors of English usage or punctuation, spelling or typography. Naturally your professional pride will be such that you will want to keep this cycle to as few iterations as you possible can, so consult [8] for the definitive treatment on all matters of punctuation, typography, and style. You will find a copy of this book in the ready reference section of Holland/New Library.

The approved document becomes the basis for your preparation of your library research paper and for your talk at the student conference held during the last week or two of classes.

5. Your Library Research Paper

Your four to six page paper on the approved topic will be prepared using some form of \TeX. I urge you to use either a \LaTeX package you install on your own computer or the computer systems provided by the School of Electrical Engineering and Computer Science, with any popular text editor, and to use \LaTeX, [7], as the
phototypesetting engine. One machine in EECS that has \LaTeX{} and supporing tools installed is: ssh1.eecs.wsu.edu. There should be no login restrictions there.

In any case, to repeat, some form of \TeX{} must be used. The paper is due at the beginning of class on 27 November 2018. The paper will follow any usual format for the presentation of scientific or technical work. See your research advisor for assistance with the format used in your area, or else follow the style given in the example .\texttt{tex} file cited above or else the style used in this handout.

The paper will explain, with the usual conventions for scientific and technical papers, the results of your library research on your topic.

The paper will have reasonable margins, be single-spaced, single column or else double column format, be set with between 10 and 12 point type, inclusive, and be at least four (4) full pages long and not more than six (6) full pages long, including any diagrams, graphs or pictures that are suitable for your topic and your library research. Examples are found in the directories for this class. If you have no other preference for a style, I recommend using \texttt{amsart}, as illustrated in some of the examples and used in preparing this handout.

To create figures, I strongly suggest using Visio (which you can get for free via zzuis) and creating pdf of the figures. You will have to tweak the figure sizes and proportions etc once you build it into a \LaTeX{} document, but that is obvious how to do. We will demonstrate this in class if necessary, but you should really be able to figure this out on your own.

One of your required texts is the best book on \LaTeX{}. More info on the latest software etc. can be found here:

\url{http://www.eecs.wsu.edu/~cs500/handouts/TeXNew.pdf}

6. Your Presentation

In our student conference the last few weeks of the semester, your talk on the approved topic mentioned above will include perhaps 5–8 slides. Your talk will be between ten and fifteen minutes in length. When you prepare your remarks, plan on a bit less than this. Somehow everything always takes longer than planned.

7. Your Topic

Any serious topic in computer science or in electrical engineering, as is appropriate for you, is acceptable. If you wonder whether or not your topic is appropriate, please send email to bakken@wsu.edu or come visit with me in EME 55. If you have a difficulties with any aspect of this choice of topic, once again send email, call me, or visit with me. Remember that I will approval or disapprove of your topic upon receipt of your one page proposal.

8. Reminder

Your audience for your presentations at the student conference include not only your peers, but also as many of the research faculty as can find the time to attend.

9. \LaTeX{} Examples

Examples using both the \texttt{amsart} and the \texttt{article} styles, suitable for this class, may be found in the directory:

\texttt{~cs500/tex/examples}
You may copy these examples to use as a template for your own proposal. Also, the .tex source for this version of this document is

```
~cs500/tex/handouts/handout0.tex
```

You may prefer to begin by copying and editing this file, which does contain a reference to a web URL.

### 10. How to do it.

Obtain a template file. For example,

```
   cp ~cs500/tex/examples/amsart.example.tex proposal.tex
```

From here you have two choices. If you have a GUI environment with a built in editor and builder and visualizer then follow its steps as per its documentation.

If you are using a Unix-based system and no GUI, here are the instructions. Edit the template into your actual wording using a Unix-based editor such as vi, [9], or emacs, [4]. Using a spelling checker such as spell or ispell helps to look for typographical errors and misspellings. Then, while logged into any Unix (Linux) machine,

```
   latex proposal.tex — This produces a .dvi file.
   Repeat the edit-L\TeX cycle as often as necessary to obtain a good .dvi file.
   dvips -o proposal.ps proposal.dvi — This produces a .ps file,
   ghostview proposal.ps — The best previewer.
   Repeat from the edit step as necessary to obtain a correct copy.
   lpr -Pname proposal.ps — print on the PostScript printer named “name”.
```

From a PostScript .ps file, you can use the Linux command ps2pdf to create a .pdf file. I leave it up to you to ascertain the proper way to invoke this command to achieve the desired output.

### 11. Trouble with English?

English is hard enough to master as a first language and certainly one of the more difficult second languages in which to write well. If you are having difficulty with English as a second language, contact the ESL Specialist in the Department of English, Elizabeth Siler, at mejia@wsunix.wsu.edu or 5-1331. The English department offers Engl 500 just to meet your needs.

For more subtle matters, [8] is the authoritative source for this class. Often any standard English dictionary suffices.

### 12. Trouble with \TeX? 

The required text for this course, [7], will answer most of your questions. The recommended text, [10], will answer most of the rest. For very difficult \TeX questions there are reference materials in Owen Science and Engineering Library. In addition, Owen possesses at least one copy of every book written on \TeX and its derivatives, such as \LaTeX. Many times, however, you can find quick answers via TUG [3].

That being said, a common error that proseminar students have made in the past is the misuse of proper quotation marks. If you follow the style of bibliographic
items in this handout, you will never have a problem with quotation marks, as none are used. But nonetheless, please note that to produce “quoted string” one must scribble into the \TeX input

``quoted string``

Look at the above until you see it, as many students fail to get the point.

Furthermore, do carefully note that \TeX is a language for driving a phototypesetting engine, not a word processor such as a commonly commercially available one. Therefore, you must carefully place whitespace wherever whitespace is to appear in the final document. Neither \texttt{vi}, \texttt{emacs}, nor \TeX will place white space after a period used as a full stop, nor after a comma used as an English separator, unless you provide at least one whitespace character in your \TeX input file. Read your \texttt{ghostview} copy in detail in this regard. Stated more briefly, do not think of any of this as anything like a commercial product widely used on personal computers.

Finally, be sure to leave sufficient time, and more, for producing the documents for this class, since it will surely take you considerably longer than you think the first time you use \TeX. With practice, you will begin to appreciate the versatility of the \TeX family of phototypesetting languages. Whether or not you appreciate the beauty of the resulting documents depends upon the care with which you use \TeX and the depth of your sense of aesthetics.

13. Query

This handout is certainly not a proposal. But if it was, what aspects of it fail to meet the criteria set forth above?

REFERENCES

[1] The World Wide Web Consortium (W3C), \url{http://www.w3.org/}.
[3] \TeX Users Group (TUG), \url{http://www.tug.org/}.