BME 100 – Tutorial 1: Annotated Bibliographies

**When:** Conducted during the first tutorial. Students are made aware of it ahead of time.

**Where:** Tutorial

**Duration:** 2 hours

**Constraints:** Completion during the tutorial session. Handed in at the end of the two hours. No late hand-ins.

**Marking:** Absent students receive 0. Half the marks will be assigned based on adherence to the IEEE citation formatting style. Half the marks will be assigned on the legibility and coherence of the annotation related to the bibliographic entry.

**Attendance:** TA takes attendance.

**Pre-tutorial:** Students will be given articles (via Email/Blackboard) about one week ahead. Students are to read the three articles, as well as the IEEE Citation Guide and the Annotated Bibliography handout.

**Resources:**
- 6 lined pages per student (40 x 6 = 240);
- IEEE Citation Style Guide by Sexton Library at Dalhousie University
  - [www.ee.ryerson.ca/~jasmith/courses/bme100/docs/2010/IEEE_Citation_Style_Guide.pdf](http://www.ee.ryerson.ca/~jasmith/courses/bme100/docs/2010/IEEE_Citation_Style_Guide.pdf)
- Annotated Bibliography handout (based on Writing Center’s; modified for IEEE style)
  - [www.ee.ryerson.ca/~jasmith/courses/bme100/docs/2010/Tutorial1_annotated_bibliographies.pdf](http://www.ee.ryerson.ca/~jasmith/courses/bme100/docs/2010/Tutorial1_annotated_bibliographies.pdf)
  - [http://www.sciencemag.org/cgi/content/full/326/5960/1598-a](http://www.sciencemag.org/cgi/content/full/326/5960/1598-a)
  - [http://www.sciencemag.org/cgi/content/full/322/5909/1766](http://www.sciencemag.org/cgi/content/full/322/5909/1766)
  - [http://www.nature.com/doifinder/10.1038/319668a0](http://www.nature.com/doifinder/10.1038/319668a0)

**Method:** Students read through the articles in the first half hour. Then, the students are to create a two page “Annotated Bibliography” using the three articles. This should take approximately one hour. The work is to be done in class, however any work conducted ahead of time may be used as an aid. Students may bring dictionaries and other writing aids. Computers are not recommended, as the written portion needs to be done on paper.

**Post-Tutorial:** Students review the “Homework 1” handout and complete it after the tutorial.
Using the Ryerson Library online resources (see below), download and print out the articles listed below. Also, create a Refworks account, enter the bibliographic data into Refworks (You’ll need to print them out)

Do the following, before your tutorial on literature surveys:

1. Find & read the articles listed below
2. Create three to four sentence annotated bibliographies for each article (see http://www.ee.ryerson.ca/~jasmith/courses/bme100/docs/2010/Tutorial1_annotated_bibliographies.pdf on how to write them)
3. Enter the bibliographic information into Refworks
4. Print out the entries, as shown in the attached screenshots: especially Figure 3.
5. Setup RefWorks to output to IEEE format (see textbox on following page).
6. Bring the annotated bibliographies and articles to the lit. survey tutorial.

Articles (all available using Ryerson University Library Online Resources)


Online Resources:

- RU Library:
  o http://www.ryerson.ca/library/indexes.html
- Google Scholar:
  o http://scholar.google.com
- Refworks:
  o www.ryerson.ca/library/info/databases/refworks/index.html
- Annotated Bibliographies:
  o www.ee.ryerson.ca/~jasmith/courses/bme100/docs/2010/Tutorial1_annotated_bibliographies.pdf
- Citation Guide:
  o http://www.ee.ryerson.ca/~jasmith/courses/bme100/docs/2010/IEEE_Citation_Style_Guide.pdf
- Research Writing Resources:
  o http://english2.byu.edu/writingcenter/handouts/researchwriting/researchsources.htm
Set up RefWorks to output to IEEE standard format

1. Login to RefWorks
2. Click on the "Bibliography" box near the top and centre of the window (about 2cm from the top and 10cm from the left)
3. Click on the "Output Style" dropdown menu and select "Access Output Style Manager..." (at the bottom of the list).
4. The Output Style Manager page will open.
5. In the left-hand list, choose IEEE - Institute of Electrical Engineers. Click on "Add to Favourites" below.
6. Click on the "Go back to previous page"
7. Now you should be able to format citations in the IEEE format.
BME 100 – Homework 2: Choose a Project Topic

Students select three possible project topics from the online list (120+ choices) in one of three categories: Hands-on, Literature Survey and Position Paper. Selections are to be emailed to the professor, with a brief description of what they wish to achieve in that project. Hands-on projects are to be accompanied with a “Scientific Method” description which outlines the “Observation, Hypothesis, Experiment and Conclusion” cycle that they think they will pursue.

Notes
- the project selection must be emailed to the professor by Monday, May 17 at 3pm.
- refer to the webpage for the project list.
- Include the Project Number (e.g. Choice 2: #398: “Intestinal Prosthetic Implants”)
- Details about the format and requirements for the projects was given in the first lecture. Refer to the lecture notes for details, as well as any updates on the course webpage.

Clarification on the Hands-on Project

The format requires that you have a "hypothesis-driven" project. In other words, it needs to address the four points of the scientific method:

1. OBSERVATION. There needs to be an observation of a phenomenon of some kind. This phenomenon can mechanical, chemical, electrical, social, etc.

2. HYPOTHESIS. You need to formulate a potential explanation for HOW or WHY that phenomenon occurred. This is the hypothesis. If you cannot do this step than you cannot proceed.

3. EXPERIMENT. With your hypothesis in mind, you need to develop an experiment to test it. If the experiment cannot confirm your hypothesis you need to start over (go back to step 1).

4. CONCLUSION. When your hypothesis is confirmed you need to write your complete report on what was done. If all of your experiments fail to confirm your hypothesis and you have run out of time or resources, then you need to explain, to the best of your ability, why the failure occurred.

Here is an example:

1. Observation: I notice that when I run, I start to sweat.
2. Hypothesis: I hypothesize that the more I run the more I will sweat.
3. Experiment: With ten of my friends, we will run five times each day at different speeds (0.5 m/s, 1.0 m/s, 1.5 m/s, 2.0 m/s and 2.5 m/s) for 10 minutes each time. We will collect the armpit sweat from each person during each run. This will be done by weighing a cloth before the run and after the run (when it is soaked in sweat).
4. Conclusion. I tabulated the results and found that, on average, we produced 10mg of sweat at 0.5 m/s, 20mg of sweat at 1.0 m/s, etc. (I produced graph showing this, too) I conclude that running faster produces more armpit sweat in 10 different subjects.
When: Assigned during the second tutorial session. In prior lectures, a guest lecturer from the library has discussed library resources and some issues regarding citations. Prof will have already discussed some of these issues, too.

Where: Tutorial
Duration: 2 hours
Constraints: Completion during the tutorial session. Handed in at the end of the two hours. No late hand-ins.

Marking: Absent students receive 0. Half the marks will be assigned based on adherence to the IEEE citation formatting style. Half the marks will be assigned on the legibility and coherence of the annotation related to the bibliographic entry.

Attendance: TA takes attendance. Check ID of students as well.

Pre-tutorial: Students will be given article info (via Email/Blackboard) one week ahead.

Marking: Absent students receive 0. Half the marks will be assigned based on adherence to the IEEE citation formatting style. Half the marks will be assigned on the legibility and coherence of the document.

Attendance: Take attendance. Check ID of students.

Pre-tutorial: The students must find the articles online before the tutorial. They must read the articles beforehand and bring them to the tutorial session.

Resources
- 6 lined pages per student (40 * 6 = 240 pages)
- IEEE Citation Style Guide (Summary) by Dalhousie

Method: Using the annotated bibliography, the students are to write a 250 word survey of the three articles, linking the three together. No student opinions are to be discussed in this survey. They are also supposed to add a standard bibliography at the end. They are to hand in both the annotated bibliography and the literature survey.

Post-Tut.: This literature survey will form the basis for the opinion paper (the subject of the next tutorial). As such, the marked surveys should be handed back to the students prior to Tutorial 3.
BME 100 – Tutorial 3: Opinion Paper (a.k.a “Position Paper”)

**When:** Assigned during the third tutorial session. In prior lectures, information on Opinion/Position Papers will have been given in class.

**Where:** Tutorial

**Duration:** 2 hours

**Constraints:** Completion during the tutorial session. Handed in at the end of the two hours. No late hand-ins.

**Marking:** Absent students receive 0. Half the marks will be assigned based on adherence to the IEEE citation formatting style. Half the marks will be assigned on the legibility and coherence of the document.

**Attendance:** TA takes attendance. Bring your student ID.

**Pre-tutorial:** You have the articles from Tutorial 2. Review them. Review the lecture on the projects. In particular, review the section on Position Papers. The lecture is posted online.

**Marking:** Absent students receive 0. Half the marks will be assigned based on adherence to the IEEE citation formatting style. Half the marks will be assigned on the legibility and coherence of the annotation related to the bibliographic entry.

**Pre-tutorial:** The students will have read the articles in the previous tutorial. They must bring them to this tutorial session. Students may bring dictionaries or other resource material. Students will receive their marked literature surveys at the start of the tutorial.

**Resources**
- Coloured “Exam” booklets for writing
- BME 100 Citation Guide (based on IEEE format)
- Any writing aides (laptops, grammar guides, etc.) the student bring.

**Method:** Over the course of the two hours the students are to write a 250 word (approx. four hand-written pages) paper describing their opinion the three papers reviewed for the literature survey in the previous tutorial. The opinion (which is up to the student) is to be backed-up by their literature survey & the surveyed papers. The last page of the document is to be a standard bibliography. They are also supposed to add an IEEE standard bibliography at the end. They are to hand in both the opinion paper and the bibliography. *No additional literature survey is needed because it was done in the last tutorial.*
**BME 100 – Tutorial 4 : Hands-on Project**

**When:** Assigned during the fourth tutorial session. In prior lectures, information on conducting hands-on projects will have been given in class.

**Where:** Tutorial

**Duration:** 2 hours

**Constraints:** Completion during the tutorial session. Handed in at the end of the two hours. No late hand-ins.

**Marking:** Absent students receive 0. Half the marks will be assigned based on adherence to the IEEE citation formatting style. Half the marks will be assigned on the legibility and coherence of the annotation related to the bibliographic entry.

**Attendance:** TA takes attendance.

**Pre-tutorial:** Students must bring calculators.

**Resources**
- Palpation lecture slides (printed out)
- Calculators (Students provide the calculators)
- Students should wear loose-fitting upper body clothing (preferably t-shirts), however this will vary based on personal circumstances

**Method:** The TA gives a presentation on “Palpation of the Arm” (Palpation_Lecture.pdf), the technique of locating parts of the body through feeling. The TA will show the students how to identify various bones in the upper body and (primarily) the arm. Most parts are passive and will yield little feedback to the students. However, the Brachial Artery is an active landmark. Once the presentation is done, the students should conduct a small scientific project in a standard format on the length of their forearm bones:

1. **Observation:** In the literature (i.e. the presentation) the Radius is shown to be shorter than the Ulna in standard human physiology.
2. **Hypothesis:** Assuming that I (the student) fit the student human physiological model my Radius will also be shorter than the Ulna.
3. **Experiment:** Measure the Ulna and Radius lengths (10 times each, take average & std. dev.). Determine if the hypothesis is correct.
4. **Conclusion:** To be determined by the student

Write a 100 – 150 word report, based on the format of the example document ([http://www.ee.ryerson.ca/~jasmith/courses/bme100/docs/JAS-isb2007-quadrobots.pdf](http://www.ee.ryerson.ca/~jasmith/courses/bme100/docs/JAS-isb2007-quadrobots.pdf)). It must contain the following sections:

1. **Introduction**
2. **Methods**
3. **Results and Discussion**
4. **Conclusions**
(If an anatomy book is used in the tutorial, the student should cite the anatomy book in the reference section. Use the book format from the IEEE template.)

**Note:** the equation for Standard Deviation is:

$$S = \sqrt{\frac{\sum_{i=1}^{N} (x_i - \bar{x}_m)^2}{N - 1}}.$$

Where $\bar{x}_m$ is the mean measured value; $N$ in the standard deviation calculation is the number of samples; $x_i$ is the individual sample in the standard deviation measurement.
When: Begin once the end-of-semester topic is authorized by the professor.

Important Files: are all found on the BME webpage (www.ee.ryerson.ca/~jasmith/courses/bme100):
  1. IEEE Template (MS Word format),
  2. Checklist. Either
   a. Hands-on Project (One Page Draft) Checklist
   b. Position Paper (One Page Draft) Checklist
   c. Literature Survey (One Page Draft) Checklist

Due date: Email a PDF to Dr. Smith, by 8am on day of class (jasmith@ee.ryerson.ca)

Constraints: Convert to PDF and send it by email to the professor (jasmith@ryerson.ca). To print or save to PDF in Windows: http://sourceforge.net/projects/pdfcreator/. Do not email .doc or .docx files! Only email PDF.

Marking: The students must hand in two pages: one for their checklist and one for their document. See the Marking Guide for the One Page Draft on the webpage.

Attendance: Must hand it in person during class.

Pre-homework: The student must have selected a project topic. One-on-one meetings during office hour between student and professor are recommended to ensure that the student is on the right track.

Resources:
  • Presentation on projects (see BME 100 webpage)
  • Checklists (There are three different checklists: one for each major project type)
  • IEEE Template (one for each major project type). Refer to the BME webpage.

Method: Students are to write a one page essay on their topic, based on the IEEE template structure.
BME 100 – Approaching the Final Project Deadline

Email about Posters (for Position Paper Projects)

Title: Posters for the Position Paper Projects

Dear students

For those of you who are doing the Position Papers this is a reminder that you will need to ALSO create a poster outlining your position. These will be on display during the Open House. For past examples of posters, visit the BME 100 webpage and click on the links to past Open Houses.

While you can do the poster by hand, you are encouraged to do it electronically (using the supplied Powerpoint template on the website, or with your own files) and to have it printed at a professional print shop. The template is http://www.ee.ryerson.ca/~jasmith/courses/bme100/docs/2010/poster_template_2010.ppt.

You can go to Sherwood Digital & Printing at 165 Dalhousie St. (in back of the Engineering building) to have it printed and mounted professionally. The process takes three to five days, so please keep this in mind regarding your hand-in deadline.

Regards,

Dr. Smith

General email about project deadline (for all projects)

Title: Important deadlines for the final projects

Please note the following dates:

0. March XXXXX: Tutorial sessions open to all. Please note that during the tutorial sessions of March XX and XX attendance is optional but is open to all students in BME 100. The TAs will be available to answer your questions regarding the project.

1. March XXXXX: Date you should give your poster file to the Print Shop (like Sherwood Printing, in back of the Engineering Building). Instruct them to have it printed on the colour printer and to have it mounted on foam core. This is a light-weight plastic backing that makes the poster rigid and easy to mount on easels. NOTE: you can make your own poster by hand or at another print shop, but take into account the time it takes to print the poster vis-a-vis the deadline for handing it in the following week (see the next point).

2. March XX & XX: hand in your projects during the tutorial time (if you have a tutorial then) or during special times (to be announced) if you do not. You are expected to hand in your poster (if
required), your hands-on project (if required) and your project documents (4 page Lit. Survey, 4 page Position Paper or 1 page Hands-on report, depending on your assigned project). The projects will be handed in, verified and stored at EPH 237. No late projects will be accepted and grading will reflect this.

3. March XX: Open House during class time. All students are expected to attend and attendance will be taken. A photo waiver will be made available for you to sign. Family and friends are encouraged to come. The Open House will be held in the LG (Lower Ground) area of the Engineering Building. Tables and easels will be available for hands-on projects and posters. Literature Survey Project students are expected to circulate amongst the different projects and ask questions and provide feedback.

4. March XX & April XX: Presentations for Lit. Survey Project students. All students are expected to attend their respective tutorial sessions, including the hands-on and position paper project students.
Students who have chosen to conduct literature surveys for their final project will have to do a 10 minute presentation, beginning in the tutorial sessions. This will also overlap to the lectures at the end of the week.
Projects will be handed in during this final tutorial. Information about the open house will be given.