The Science and Engineering and The National Association of Blind Students divisions of the National Federation of the Blind Joint Science Oriented Phone Meeting Minutes for January 9, 2017

On January 9, 2017, at 9 PM Eastern Standard Time (EST) The Science and Engineering Division of the National Federation of the Blind and The National Association of Blind Students of the National Federation of the Blind, had a science-oriented phone conference using the Students' conference line.

Science and Engineering President John Miller and National Association of Blind Students President Kathryn Webster were co-moderators.

The moderators called the meeting to order at 9 PM EST.

**Presentations**

The first speaker was Kennedy Stomberg who spoke on the topic of "How to Be Successful in A Biology Lab Situation". Her points were:

1. Be proactive. Think ahead. Read the lab instructions before you get into the lab.
2. Get a sighted lab assistant for visual things.
3. Have the sighted assistant make an accessible drawing of what the assistant sees under a microscope. If this is not possible, have the assistant describe, in detail, the things the assistant sees.
4. Concerning measurements: Use pipets of various sizes to move fluids from the fluid source to the fluid target. Use talking balances to measure weights, or have the sighted assistant make the measurement. Can use talking thermometers to measure temperatures.

The second speaker was Kristen Johnson who spoke on the topic of "How To do Dissections". Her points were:

1. You should have a sighted lab assistant.
2. Have an accessible diagram of what you are dissecting.
3. The lab instructions will tell you where to begin.
4. Soft animals will be deformed because of the formaldehyde.
5. If you are partially sighted, draw, on the animal, where you will be cutting.
6. Put three fingers around your cutting target.
7. You must depend on your lab instructions to identify organs.
8. Do not make rapid cutting movements. Cut slowly.

The third speaker was Ashley Neybert who spoke on the topic of "How To do Chemistry Labs". Her points were:

1. Know where everything is in the lab.
2. Work with aluminum pie pans to keep your work contained.
3. Always wear safety goggles.
4. You can mark syringes so that you can measure precise amounts of fluids. You can use an X-Acto knife to mark syringes.
5. If possible, get a "Sci-Voice Talking LabQuest 2" from Independence Science (http://independencescience.com/). This is a computer, with keyboard input and voice output, that can be connected to a variety of sensors. This device allows the blind student to make lab measurements.
6. As you move about the lab, announce what you are carrying and where you are going. Get your fellow students to do this also.

The fourth speaker was John Miller who spoke on the topic of "How To do physics and engineering". His points were:

1. The Science And Engineering Division of the NFB can be found at (https://nfb.org/divisions-and-committees). The division's e-mail discussion list can be found at (http://www.nfbnet.org/mailman/listinfo/nfb-science\_nfbnet.org). The division's facebook page can be found at (facebook.com/blindscience).
2. John Miller's contact information is: (Phone: 858-527-1727, E-mail: johnmillerphd@hotmail.com).
3. People become skilled in their individual specialties. It is helpful to join discussion groups containing knowledgeable people so that you can learn from them.
4. Learn a computer language such as Python.
5. It is useful to output your data in "comma separated Values" (CSV) ASCII files. This format is easily processed by applications such as Excel.
6. It takes a year to get a science or mathematics textbook in an accessible format such as Braille. It is useful to get an electronic copy in Braille.
7. John works in radar. He uses a Braille display, ViewPlus graphics printer, and hard-copy Braille.
8. John uses Microsoft Word, MathType, and Duxbury to process documents. He enters his math with Word and MathType, and reads the final product with Duxbury.
9. John uses a sighted person to do his final type setting.
10. John advises people to apply for the NASA internships.
11. John uses a sighted person to check John's resume.

**Questions**

Question: How do you do physics labs?

Answer: John said that he used sighted lab partners. He occasionally met with the head teaching assistant (TA) to arrange this. Sometimes John, and his partner, did the labs when they had the lab to themselves.

John suggested that it is helpful to have a paid lab assistant who is not a student so that the lab assistant does not have academic pressures interfering with the assistant. John suggested recruiting from the local community. John said that you should introduce yourself, and your lab assistant, to the person running the labs before the semester starts.

The blind student could offer to be a note-taker for other sighted students.

Your professor may be able to help you find an assistant.

You could offer to join a lab team. Often students are divided into pairs in a lab.

Question: If you must move around the lab, how do you carry your access technology such as a notetaker?

Answer: Have your lab partner carry your chemicals. Possibly, your lab partner could make the measurements at another station, and report the results to you later.

Question: How can you work in a lab with a high background noise?

Answer: you can use noise canceling earphones on top of your earbuds which you can plug into your technology. Sometimes, you can plug an external speaker into your technology. If the lab is loud, then you may have to depend on your lab assistant to do the measurements.

Sometimes the lab instructor would play loud music. You can ask the lab instructor not to do this. After all, other students may have problems focusing on their tasks if the background is too loud.

**Final Comments**

**John asked those with questions to forward their inquiries to him, and he would distribute the questions to the speakers.**

**Adjournment**

The meeting ended at 10:05 PM EST.

**Questions and Corrections**

If there are any questions about the Science and Engineering Division, send them to Science and Engineering President John Miller (Phone: 858-527-1727

Email: johnmillerphd@hotmail.com).

If there are questions about the National Association of Blind Students, send them to National Association of Blind Students President Kathryn Webster (Phone: 203-273-8463, Email: nabs.president@gmail.com).

If there are any corrections for the minutes, please contact Louis Maher (713-444-7838, ljmaher@swbell.net).

Minutes submitted by Louis Maher