INSTRUCTIONS FOR USING THE SPECTROFLUOROMETER

SCANNING SAMPLES:

1) Select **1** for spectra
2) Select 1 to change the spectra type to **EX** (excitation) or **EM** (emission). In an excitation scan the fluorometer measures fluorescence at a specified wavelength while the excitation beam scans over a given range. In an emission scan the sample is excited at a specific wavelength while emission is measured over a range.
3) For an excitation scan (EX):
    a. Set your emission wavelength by hitting the **EMλGOTO**, entering your wavelength using the numeric key pad, and hitting **ENTER**.
    b. Set your excitation range by selecting **2 (EX SCANNING RANGE)**, entering the starting wavelength using the numeric key pad, hitting **ENTER**, entering the ending wavelength, and hitting **ENTER** again.
4) For an emission scan (EM):
    a. Set your excitation wavelength by hitting the **ExλGOTO**, entering your wavelength using the numeric key pad, and hitting **ENTER**.
    b. Set your emission range by selecting **3 (EM RANGE)**, entering the starting wavelength using the numeric key pad, hitting **ENTER**, entering the ending wavelength, and hitting **ENTER** again.
5) Select **4** to set your scan speed. For testing samples for fluorescence use **FAST** and for collecting data for analysis use **SLOW**.
6) Select **START/STOP** to begin the scan.
7) Hitting **RETURN** always returns you to the previous screen.

OBTAINING THE PEAK WAVELEGNTH

NOTE: This is ideal for a quick look. For more detailed analysis transfer the data to the computer and analyze using excel.

1) After the scan is complete, select **F3** for **DATA ANYLSIS**.
2) Select **1** with the numeric key pad for **PEAK PICK**
3) To return to the previous menu select **RETURN.**

TRANSFERING THE SCAN TO THE COMPUTER

1) After the scan is complete, save as file 1:
    a. Select **F4, FILE**
    b. Select **F2, SAVE**
    c. Select **1**, to save the file in slot 1, and hit **ENTER**.
    d. Hit **ENTER** if the computer asks you if you want to write over file1. overwrite
    e. Name the file a different letter than the letter currently used by selecting the letter using the arrows and then selecting **F1, END**
2) Transfer to the computer
    a. Create a new folder in the SCANS folder with your last name_date. For example, elrad_0403.
    b. Open the hyperterminal program by double clicking on the umbrella icon if the program is not already open.
    c. Under **transfer menu**, select **capture text.**
    d. Select browse to choose your folder.
    e. Enter your file name. Record this name with all relevant sample information in your lab notebook. Hit enter on the computer. Push **START.**
    f. On the spectrofluorometer, select **F3, TRANSFER FILE.**
    g. Select **1** to transfer file 1 and hit **ENTER.**
    h. Enter **12** when the spectrofluorometer asks you to input the destination file.
    i. Watch the numbers on the computer.
    j. On the computer select **Capture text → stop** under the **transfer menu**.
3) Open the file on the computer using excel
    a. To graph your data in excel, open your file in excel, choose **deliminate**, and the space bar as the deliminator. When printing scans for your notebook, the title of your graph should contain the file name and sample description. Also make sure your axes are labeled and that the labels include units where appropriate.
    b. Once you have analyzed your data save your file as an **excel workbook** and not a text file.