RAAIN LAB SKILL SURVEY

IT CAN BE HARD TO KNOW WHAT SKILLS TO HONE TO BE COMPETITIVE FOR GRADUATE SCHOOL, AND EVEN WHAT WE CAN DEFINE AS "COMPETENCY" IN EACH SKILL. CHECK OUT WHERE WE RECOMMEND APPLICANTS SHOULD LAND ON (MOST) SKILLS THAT ARE USEFUL TO THE RAAIN LAB.

NOTE: EVEN IF YOU DO NOT HAVE SOME (OR MANY!) OF THESE SKILLS, WE ENCOURAGE, IN FACT, IMPLORE YOU TO APPLY. THIS GUIDE IS MERELY INTENDED TO DE-MYSTIFY THE PROCESS AND CLARIFY EXPECTATIONS

RAAIN Lab

OVERVIEW AND IMPORTANCE OF VARIOUS QUALIFICATIONS

THE FOLLOWING IS A SUMMARY OF SKILLS THAT YOU MAY WANT TO MENTION IN YOUR STATEMENT OF PURPOSE AND IN YOUR INTERVIEW PROCESS. HOWEVER, THERE MAY BE OTHER RELEVANT SKILL SETS THAT ARE NOT LISTED HERE. DON'T BE SHY TO MENTION THEM!

WE WANT TO BE CLEAR THAT THE MOST IMPORTANT QUALIFICATIONS FOR WORKING IN THE LAB AS A GRADUATE STUDENT ARE THAT YOU HAVE THE RELEVANT "SOFT SKILLS" LISTED BELOW, AND SHARE OUR LAB VALUES. THE REST IS TEACHABLE!

A CLOSE SECOND TO SOFT SKILLS IS RESEARCH EXPERIENCE. THIS IS MORE IMPORANT TO PHD APPLICANTS THAN MASTERS APPLICANTS.

RESEARCH EXPERIENCE

A COMPETITIVE APPLICATION WILL BE ABLE TO TICK A FEW OF THESE EXPERIENCE BOXES. AGAIN, WE FULLY RECOGNIZE THAT THIS CAN VARY QUITE A BIT DEPENDING ON THE COLLEGE YOU ATTENDED, AND IT IS MORE THAN OK TO APPLY WITHOUT CHECKING ALL THESE BOXES

- [ ] 1-2 (PREFERABLY MORE) SEMESTERS WORKING OR VOLUNTEERING IN A PSYCHOLOGY LAB

AND/OR:

- [ ] EXPERIENCE IN A RESEARCH SEMINAR COURSE, WHERE YOU CONDUCTED PSYCHOLOGY RESEARCH

- [ ] CONDUCTING YOUR OWN RESEARCH PROJECT (I.E. HONORS THESIS)

- [ ] PRESENTING A RESEARCH POSTER AT A CONFERENCE

- [ ] WORKING IN HUMAN-SUBJECTS RESEARCH IN ANY CAPACITY

OTHER POTENTIALLY RELEVANT EXPERIENCES :

- [ ] WORKING OR VOLUNTEERING IN ANY OTHER TYPE OF RESEARCH LAB (I.E. ENVIRONMENTAL SCIENCES)

- [ ] WORKING IN ANY PROFESSION THAT INVOLVES CUSTOMER/CLIENT INTERACTIONS (I.E. SERVICE, HEALTHCARE, TEACHING, ETC.)

CONTENT AREA KNOWLEDGE

A COMPETITIVE APPLICATION WILL HAVE COMPLETED BACKGROUND COURSEWORK (OR HAVE EQUIVALENT EXPERIENCE, I.E. WORKING IN A RELATED LAB) IN MANY OF THE FOLLOWING COURSES:

- [ ] INTRO TO PSYCHOLOGY

- [ ] INTRO TO ENVIRONMENTAL STUDIES

- [ ] COGNITIVE PSYCHOLOGY

- [ ] BRAIN & BEHAVIOR (NEUROSCIENCE)

- [ ] SOCIAL OR EXPERIMENTAL PSYCHOLOGY

- [ ] 1-2 (OR MORE) SEMESTERS OF STATISTICS

BONUS, SUPER IMPRESSIVE COURSES:

- [ ] COURSEWORK IN EEG OR ECG METHODS

- [ ] ANY COMPUTER PROGRAMMING COURSE

PROGRAMMING SKILLS

ON THE SPECTRUM OF THIS SKILL DEVELOPMENT, WE RECOMMEND THAT APPLICANTS FALL ON THE FOLLOWING (UNDERLINED) WHEN APPLYING TO THE LAB- BONUS IF YOU HAVE STRONGER DEVELOPMENT THAN THAT! ADDITIONALLY- NOT A BIG DEAL IF YOU FALL BELOW A GIVEN SKILL

1. R & RSTUDIO

WE USE R FOR DATA MANAGEMENT AND VISUALIZATIONS IN THE LAB.

1. I HAVE NEVER OPENED R
2. I CAN READ IN A DATA FILE TO R
3. <u>I CAN READ IN A DATA FILE TO R AND PERFORM BASIC STATISTICS (I.E. DESCRIPTIVE STATISTICS, T-TESTS)</u>
4. I CAN DO ALL OF THE ABOVE, PLUS "WRANGLE" MY DATA WITH PACKAGES LIKE TIDYVERSE
5. I CAN DO ALL OF THE ABOVE, PLUS PLOT MY DATA IN GGPLOT
6. I CAN DO ALL OF THE ABOVE, PLUS OTHER ADVANCED R TECHNIQUES
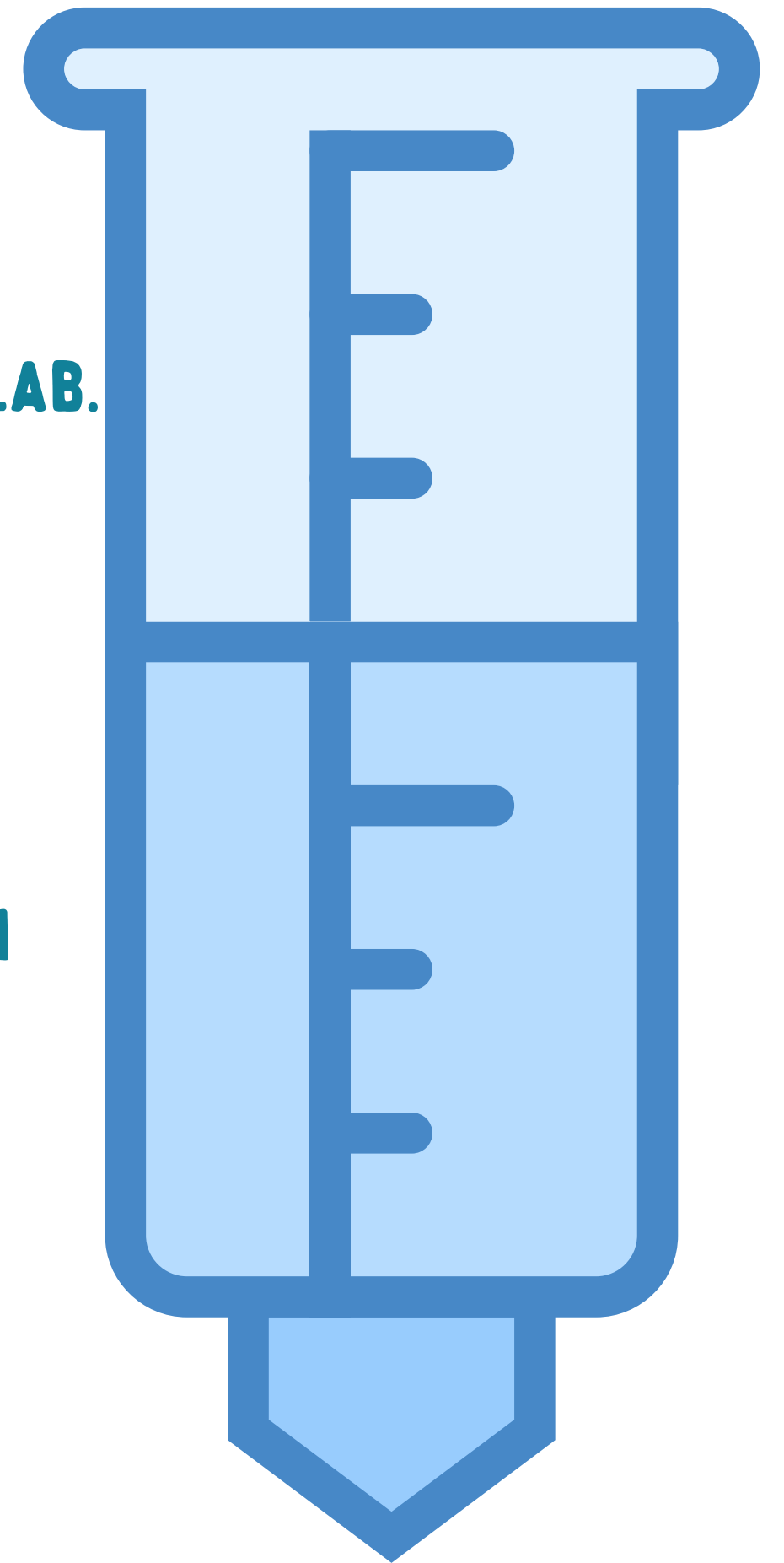
2. MATLAB

WE USE MATLAB FOR EEG DATA ANALYSIS IN THE LAB. LIKE R AND PYTHON, IT IS A C+ DERIVATIVE. YOU AREN'T EXPECTED TO HAVE USED IT IN THE PAST, AS IT IS NOT OPEN SOURCE, BUT BONUS IF YOU HAVE. BIG BONUS IF YOU HAVE USED EEGLAB (TOOLBOX IN MATLAB).

1. <u>I HAVE NEVER OPENED MATLAB</u>
2. I CAN COMPLETE BASIC OPERATIONS IN MATLAB
3. I CAN RUN A PRE-CREATED MATLAB SCRIPT WITHOUT MAKING ANY ADJUSTMENTS
4. I CAN ADJUST A PRE-CREATED MATLAB SCRIPT FOR MY NEEDS
5. I HAVE WRITTEN/USED/ADJUSTED A MATLAB SCRIPT TO ANALYZE EEG DATA BEFORE
6. I CAN DO ALL OF THE ABOVE, PLUS OTHER ADVANCED R TECHNIQUES

3. PSYCHOPY (PYTHON)

WE USE A FREE OPEN-SOURCE STANDALONE PACKAGE IN PYTHON TO CREATE OUR EXPERIMENTS IN THE LAB. THIS IS MOSTLY POINT AND CLICK (NO PYTHON LANGUAGE KNOWLEDGE REQUIRED), BUT SOME PYTHON KNOWLEDGE WILL HELP YOU WITH COMPLEX EXPERIMENTS

1. WHAT IS PSYCHOPY? SOUNDS TASTY.
2. <u>I HAVE OPENED PSYCHOPY BEFORE AND PLAYED AROUND WITH IT.</u>
3. I HAVE PROGRAMMED AN EXPERIMENT IN PSYCHOPY WITH HELP
4. I HAVE PROGRAMMED AN EXPERIMENT IN PSYCHOPY ON MY OWN
5. I CAN CREATE COMPLEX PSYCHOPY EXPERIMENTS THAT INTERFACE WITH EEG

4. OTHER

OTHER RELEVANT PROGRAMMING EXPERIENCES YOU SHOULD MENTION

- [ ] USING E-PRIME, EXPERIMENT BUILDER, GORILLA, ETC.

- [ ] ANY OTHER PYTHON EXPERIENCE

- [ ] ANY JAVASCRIPT EXPERIENCE

- [ ] EXPERIENCE USING QUALTRICS

- [ ] EXPERIENCE USING ONLINE DATA COLLECTION PLATFORMS SUCH AS PAVLOVIA, AMAZON TURK, ETC.

- [ ] ANY OTHER EXPERIENCES WITH PROGAMMING, CODING, WORKING WITH COMPUTER HARDWARE & SOFTWARE, ETC.

"SOFT" SKILLS

THEY ARE CALLED SOFT SKILLS, BUT THEY ARE SOMETIMES THE HARDEST TO MASTER! WE EXPECT STRONGER COMPETENCY ON THESE SKILLS THAN ANY OTHER "HARD" SKILL. "HARD" SKILLS LIKE PROGRAMMING ARE EASIER TO TEACH SOMEONE THAN HOW TO BE NICE.

ON THE SPECTRUM OF THIS SKILL DEVELOPMENT, WE RECOMMEND THAT APPLICANTS HAVE THE FOLLOWING (UNDERLINED)...

1. COMMUNICATION

TIMELY, RESPECTFUL, AND HONEST COMMUNICATION IS THE LIFEBLOOD OF THE LAB. ON THE SPECTRUM OF SKILL DEVELOPMENT HERE, WE EXPECT (UNDERLINED)....

1. COMMUNICATION MAKES ME VERY UNCOMFORTABLE!
2. I CAN COMMUNICATE ABOUT BASIC THINGS IN THE LAB (I.E. LAB HOURS, PROJECT PROGRESS)
3. I CAN COMMUNICATE ABOUT BASIC THINGS AND ASK CLARIFYING QUESTIONS ABOUT THINGS I DON'T UNDERSTAND
4. I CAN COMMUNICATE ABOUT ALL OF THE ABOVE PLUS ARTICULATE WHAT I NEED/WANT OUT OF MY EXPERIENCE IN THE LAB
5. <u>ALL OF THE ABOVE, PLUS I FEEL COMFORTABLE GIVING AND RECEIVING FEEDBACK IN A POLITE AND RESPECTFUL WAY</u>

2. FLEXIBILITY

SCIENCE MEANS THAT WE ARE ON THE CUTTING EDGE OF KNOWLEDGE WHICH MEANS WE ARE CONSTANTLY CHANGING HOW WE DO THINGS. YOUR ABILITY TO COPE WITH THIS...

1. IT'S VERY TOUGH FOR ME TO ADAPT TO ANY CHANGE FROM THE ORIGINAL PLAN
2. I CAN ADAPT TO CERTAIN CHANGES, BUT OTHER THINGS ARE VERY DIFFICULT
3. I CAN SOMEWHAT ADAPT TO CHANGES, BUT IT'S SOMEWHAT UNCOMFORTABLE
4. <u>I AM GOOD AT ADAPTING TO CHANGES, AND IT'S USUALLY NOT TOO UNCOMFORTABLE/DISRUPTIVE FOR ME</u>
5. I WILL LITERALLY DO WHATEVER, WHENEVER, EVEN IF IT MEANS SCRAPPING PAST WORK OR PROTOCOLS, AND IT DOES NOT BOTHER ME.

3. RESILIENCE

MISTAKES HAPPEN, THINGS GO WRONG, WE ENCOUNTER DISAPPOINTMENTS. SUCH IS THE NATURE OF SCIENCE. A SUCCESSFUL SCIENTIST EMBRACES THIS AS PART OF THE JOURNEY. THIS IS ONE OF THE HARDEST, YET MOST ESSENTIAL, TRAITS TO CULTIVATE. WE WILL WORK ON THIS DURING YOUR TIME IN THE LAB, BUT FOR NOW, YOU SHOULD BE DESCRIBED BY THE FOLLOWING...

1. I FIND MYSELF EXTREMELY DISCOURAGED BY FAILURES
2. <u>I AM DISCOURAGED BY FAILURES, BUT GIVEN TIME I CAN BOUNCE BACK</u>
3. ALTHOUGH IT CAN BE DISAPPOINTING, I EXPECT TO FAIL AT THINGS REGULARLY AND SEE FAILURE AS AN ESSENTIAL PART OF THE PROCESS
4. COMPLETELY UNPHASED BY MOST FAILURES

4. RESPECT

WORKING IN AN EXTREMELY COLLABORATIVE HUMAN-SUBJECTS RESEARCH LAB MEANS YOU WILL BE INTERACTING WITH OTHER HUMANS A LOT! THEREFORE, BEING ABLE TO BE RESPECTFUL IS CRITICAL.

1. I STRUGGLE WITH THIS
2. I CAN RESPECT CERTAIN PEOPLE IN THE LAB (I.E. SUPERVISORS)
3. I CAN RESPECT ALL PEOPLE IN THE LAB, REGARDLESS OF STATUS IN THE LAB
4. I CAN RESPECT ALL PEOPLE IN THE LAB EVEN WHEN I AM HAVING A BAD DAY!
5. <u>I CAN RESPECT ALL PEOPLE IN THE LAB EVEN WHEN I'M HAVING A BAD DAY</u>, AND SINCERELY APOLOGIZE WHEN I INEVITABLY FAIL TO ACHIEVE THIS GOAL AT SOME POINT

5. SELF-SUFFICIENCY

MOST OF YOUR WORK WILL BE RELATIVELY INDEPENDENT. WHILE ASKING FOR HELP IS NEVER BAD, IT CAN OFTEN EXPEDITE YOUR PROCESS IF YOU KNOW HOW TO HELP YOURSELF.

1. I NEED A LOT OF HELP WITH ALMOST EVERY TASK EVERY TIME THAT I COME IN TO THE LAB
2. I DON'T NEED A LOT OF HELP WITH TASKS, BUT I NEED TO BE DIRECTED WHAT TO DO EVERY DAY
3. I CAN COME IN AND KNOW HOW TO BE USEFUL ON MY OWN, WITH SOME DIRECTION
4. <u>I CAN COME IN AND KNOW HOW TO BE USEFUL WITH MINIMAL DIRECTION</u>
5. I CAN DO ALL OF THE ABOVE, AND WHEN I ENCOUNTER A SKILL OR QUESTION I DON'T KNOW, I FEEL EMPOWERED TO TRY LOOKING IT UP (WHEN APPROPRIATE- DOES NOT APPLY TO SAFETY SKILLS).

OTHER RELEVANT "SOFT" SKILLS

- ☐ ATTENTION TO DETAIL

- ☐ PUNCTUALITY

- ☐ POSITIVE ATTITUDE

- ☐ COMMUNITY BUILDING

- ☐ HARD WORK ETHIC

- ☐ WILLINGNESS TO MENTOR OTHERS

- ☐ HONESTY

DATA COLLECTION & PROJECT MANAGEMENT

ON THE SPECTRUM OF THIS SKILL DEVELOPMENT, WE RECOMMEND THAT APPLICANTS HAVE THE FOLLOWING...

1. PROJECT MANAGEMENT

1. I HAVE NEVER WORKED ON A RESEARCH STUDY
2. I CAN CONCEPTUALIZE A STUDY IDEA THAT MIGHT BE INTERESTING
3. I CAN DESIGN A SOLID RESEARCH STUDY WITH SOME HELP
4. I CAN DESIGN A SOLID RESEARCH STUDY ON MY OWN, BUT WILL NEED GUIDANCE WITH DATA ANALYSIS, PROGRAMMING OR SOME OTHER ASPECT
5. I FEEL CONFIDENT IN MY ABILITY TO CONCEPTUALIZE, PROGRAM, OBTAIN FUNDING FOR, COLLECT, ANALYZE, AND WRITE UP MY PROJECT FROM START TO FINISH.

2. DATA COLLECTION

1. I HAVE NEVER "RAN A PARTICIPANT" BEFORE
2. I HAVE RUN PARTICIPANTS THROUGH A BASIC EXPERIMENTAL PARADIGM (I.E. COGNITIVE TASKS, QUALTRICS SURVEYS)
3. I HAVE RUN PARTICIPANTS THROUGH A BASIC EXPERIMENT THAT ALSO INCLUDED PSYCHOPHYSIOLOGY DATA COLLECTION LIKE HEART RATE OR EEG
4. I AM HIGHLY EXPERIENCED IN RUNNING PARTICIPANTS USING COMPLEX PSYCHOPHYSIOLOGY METHODS
5. I HAVE CREATE NEW STUDIES/NEW PROTOCOLS USING THESE METHODS

3. MANAGEMENT

NO FORMAL MANAGEMENT EXPERIENCE IS REQUIRED, HOWEVER, YOU MAY BE SUPERVISING UNDERGRADUATE RESEARCH ASSISTANTS HERE. THEREFORE, IF YOU HAVE ANY FORMAL SUPERVISORY EXPERIENCE, PLEASE MENTION IT.

SCIENTIFIC READING & WRITING

ON THE SPECTRUM OF THIS SKILL DEVELOPMENT, WE RECOMMEND THAT APPLICANTS HAVE THE FOLLOWING. (UNDERLINED)..

1. LITERATURE SEARCHES

1. I DON'T KNOW HOW TO LOOK UP AN ARTICLE
2. I HAVE SUCCESSFULLY LOOKED UP AN ARTICLE ON SEARCH ENGINES LIKE GOOGLE SCHOLAR
3. I CAN LOOK UP AN ARTICLE AND CITE IT IN APA FORMAT
4. <u>I CAN DO ALL OF THE ABOVE AND ORGANIZE IT INTO A SPREADSHEET, BUT HAVE TROUBLE SUMMARIZING THE STUDIES</u>
5. <u>I CAN CONDUCT A FULL LITERATURE SEARCH IN A TOPIC AND SUMMARIZE MY FINDINGS</u>

2. APA-SYLE WRITING

1. I HAVE NEVER WRITTEN ANYTHING IN SCIENTIFIC FORMAT
2. I HAVE WRITTEN A FEW APA STYLE PAPERS FOR CLASS, BUT COULD IMPROVE SUBSTANTIALLY
3. <u>I HAVE WRITTEN A FEW APA STYLE PAPERS FOR CLASS AND AM CONFIDENT IN THEIR QUALITY</u>
4. I HAVE WRITTEN A FULL, RESEARCH STYLE SCIENCE PAPER (INTRO, METHODS, RESULTS, DISCUSSION)
5. I HAVE BEEN A PUBLISHED AUTHOR ON A SCIENCE PAPER (OR SUBMITTED TO A PEER-REVIEWED JOURNAL BEFORE

SCIENCE COMMUNICATION

ON THE SPECTRUM OF THIS SKILL DEVELOPMENT, WE RECOMMEND THAT APPLICANTS HAVE THE FOLLOWING...

1. SCIENCE CONFERENCES

1. I HAVE NEVER BEEN TO A CONFERENCE BEFORE
2. I HAVE BEEN A NON-LEADING OR PRESENTING AUTHOR ON A POSTER
3. I HAVE BEEN A LEADING AUTHOR ON A POSTER AT A LOCAL OR UNIVERSITY CONFERENCE
4. I HAVE BEEN A LEADING AUTHOR ON A POSTER AT A NATIONAL CONFERENCE
5. I HAVE GIVEN AN ORAL PRESENTATION AT A CONFERENCE

2. PUBLIC ENGAGEMENT

1. I HAVE TROUBLE SUMMARIZING THE RESEARCH I AM DOING
2. I CAN EXPLAIN MY RESEARCH TO ANOTHER RESEARCHER
3. I CAN EXPLAIN MY RESEARCH TO MY FRIENDS/FAMILY
4. I HAVE BEEN FORMALLY/INFORMALLY TRAINED IN SCIENCE COMMUNICATION
5. I HAVE CREATED PROGRAMMING ABOUT MY RESEARCH AIMED AT A PUBLIC AUDIENCE

3. FORMAL TEACHING

WE DO NOT EXPECT FORMAL TEACHING EXPERIENCE, HOWEVER, YOU MAY SERVE AS A TEACHING ASSISTANT DURING YOUR TIME HERE. THEREFORE, IF YOU HAVE ANY EXPERIENCE TEACHING (I.E. TUTORING, CAMP COUNSELOR, ELEMENTARY SCHOOL TEACHER) YOU SHOULD MENTION IT HERE!