Amherst College Neuroscience Major Checklist

Name:_____ Year: _____

Advisor(s): ____

Neuroscience majors must *preregister* for all courses they will use to satisfy requirements for the major. You should not assume you will be guaranteed entry into a course during the add/drop period if you did not preregister for it (e.g., you must <u>preregister</u> for NEUR-301 and/or NEUR-351).

For Advanced Placement in neuroscience, see the following requirements:

- *Chemistry*: with a Chemistry AP score of 4 or 5, follow the recommendation made during orientation (many students with AP credit still take CHEM-151/155).
- *Math:* you may place out MATH-111 with a score of 4 or 5 on the AB exam or a 3 on the BC exam. In this case, you still need to satisfy the Physics/Mathematics requirement with a higher-level course.
- *Biology*: you may place out of BIOL-191 with a score of 5 on the Biology AP exam. In this case you must substitute BIOL-251 or BIOL-291 for BIOL-191 requirement.

Neuroscience majors must complete the following requirements:

(1) General science requirements:

Chemistry: All of the following:

- □ CHEM-151/155
- □ CHEM-161/165
- □ CHEM-221 (many majors also take CHEM-231)

Biology:

- □ BIOL-191
- note: BIOL-181 is optional for Neuroscience, but should be considered by students in their first semester that are pre-med of may major in Biology or Neuroscience but haven't decided yet. Note that some advanced elective courses also require BIOL-181*

Statistics: <u>One</u> of the following:

- □ STAT-111 -or-
- □ STAT-135 -or-
- □ STAT-230 -or-
- □ PSYC-122

Physics/Mathematics: At least two of the following courses:

- □ PHYS-116, 117, 123, 124
- □ MATH-111, 121, 211
- > If you have Advanced Placement in any of these subjects, take
- > at least 4 on AB or 3 on BC) is a prerequisite for CHEM-161/165 and PHYS-117.
- > The *Statistics* requirement is separate from this *Physics/Math* requirement and you cannot use a course from one requirement to double-count for the other.

(2) Introduction to Neuroscience courses

Neuroscience Majors must take the following two courses:

- □ NEUR/PSYC-213: Neuroscience: Systems and Behavior (w/ lab)
- □ NEUR/BIOL-214: Neurobiology (**non lab**)
- Note: The NEUR-213 course must be taken in the fall semester of your sophomore year. The NEUR-214 course may be taken in the spring of either sophomore or junior year but must be completed prior to the end of junior year.

- (3) Upper-level Behavioral Neuroscience: <u>One</u> of the following seminar courses:
 - □ NEUR-245 : Systems Neuroscience
 - □ NEUR-317 : Neurobiology of Appetite
 - □ NEUR-325 : Psychopharmacology
 - □ NEUR-356 : Neurophysiology of Motivation

(4) Upper-level Neurobiology: <u>One</u> of the following lab courses:

- □ NEUR-301 : Molecular Neurobiology with laboratory
- □ NEUR-303 : Molecular Neurobiology: CURE with laboratory
- □ NEUR-313 : Social Neuroendocrinology with laboratory
- □ NEUR-351 : Neurophysiology with laboratory

(5) Upper-level Human Neuroscience: <u>One</u> of the following courses:

- □ NEUR-361 : Consciousness and the Brain
- □ NEUR-367 : Human Neuroscience

(6) Upper-level Elective: <u>One</u> additional upper-level elective from the following courses:

- An additional behavioral neuroscience course from item (3) above
- An additional neurobiology course from item (4) above
- An additional human neuroscience course from item (5) above
- □ NEUR-211 : Cognitive Neuroscience
- □ NEUR-350 : Neurophysiology <u>without</u> lab
- □ NEUR-411 : Synapses Seminar
- □ NEUR-450 : Seminar in Physiology
- □ BIOL-221 : Developmental Biology (w/ lab)
- □ BIOL-241 : Genetic Analysis (w/lab)
- □ BIOL-260/261 : Animal Physiology (w/ or w/o lab)
- □ BIOL-271 : Microbiology (w/ lab)
- □ BIOL-281 : *Animal Behavior (w/ lab)
- □ BIOL-291 : Cell Structure and Function (w/ lab)
- BIOL-311 : Small Proteins in Antibiotic Resistance (w/ lab)
- □ BIOL-331 : Biochemistry (w/ lab)
- BIOL-371 : Molecular Genetics (w/ lab)
- □ BIOL-381 : *Genome Biology (w/ lab)
- □ BIOL-391 : Quantitative Imaging (w/ lab)
- □ PSYC-233 : Cognitive Psychology
- □ PSYC-234 : Memory
- □ PSYC-236 : Psychology of Aging
- □ PSYC-357 : History of Psychiatry
- via petition to the Chair, it may be possible to satisfy this requirement with a Five College course or study away course.

courses listed with an asterisk () require BIOL-181 as a prerequisite

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