NEUROSCIENCE

PROFESSOR JARRARD*

A major in **neuroscience** leading to a Bachelor of Science degree requires the completion of at least 50 credits, including the following:

1. Biology 112, 215; Chemistry 241 or 241S, 242; Neuroscience 120, 395; Psychology 120, 250, 253
2. One course chosen from Biology 243, 250, 255 and 365
3. One course chosen from Psychology 255, 257 and 258
4. At least six credits chosen from the following:
   Biology 422, 423, 424, 425, 426, 492-496
   Chemistry 421, 422, 423, 433, 436, 439, 471, 472, 473, 493
   Computer Science 251 (Engineering 251)
   Neuroscience 403, 493
   Psychology 353, 355, 357, 431, 432, 433, 473, 493
5. Additional credits chosen from the list below of approved neuroscience courses.

Additional courses required as prerequisites for completion of the above core include Biology 111 and Chemistry 111 and 112.

Students contemplating application to graduate programs or medical school should note that Chemistry 341 (Biochemistry), Mathematics 102 (Calculus II), and Physics 112 and 114 (General Physics II) are either required or highly recommended by most admissions committees.

HONORS: An Honors Program in neuroscience is offered for qualified students; see program head for details.

Neuroscience courses are as follows; for course descriptions, see the appropriate departmental listings:

Biology 112—General Biology II
Biology 215—Cell and Molecular Biology
Biology 243—Animal Behavior
Biology 250—Vertebrate Endocrinology
Biology 255—Reproductive Physiology
Biology 365—Developmental Biology
Biology 395—Topics in Structural and Functional Biology: Neuroendocrinology (May be substituted for Neuroscience 395)
Biology 422-426—Directed Individual Research
Biology 492-496—Honors Thesis
Chemistry 241—Organic Chemistry I
Chemistry 241S—Organic Chemistry I at St. Andrews
Chemistry 242—Organic Chemistry II
Chemistry 421-423—Directed Individual Research
Chemistry 433-439—Tutorial
Chemistry 471-473—Senior Thesis
Chemistry 493—Honors Thesis
Computer Science 251—Laboratory Computer Applications
Engineering 251—Laboratory Computer Applications
Neuroscience 120—Introduction to Neuroscience
Neuroscience 395—Special Topics in Neuroscience
Psychology 120—Quantitative Methods
Psychology 250—Research Design and Analysis

**Head of Neuroscience Program Advisory Committee*

Psychology 253—Physiological Psychology
Psychology 255—Experimental Psychology; Cognitive Neuroscience
Psychology 257—Psychobiology of Development
Psychology 353—Directed Research in Physiological Psychology
Psychology 355—Directed Research in Cognitive Neuroscience
Psychology 357—Directed Research in Psychobiology
Psychology 431-433—Tutorials in Psychology
Psychology 493—Honors Thesis

NEUROSCIENCE 120 (3)—Introduction to Neuroscience

An introduction to neuroscience emphasizing the molecular organization, chemistry, and physiology of the neuron, how neurons are organized into functional circuits, and how these functional circuits process information and control both normal and abnormal behavior. *R. Stewart.*

Winter

NEUROSCIENCE 395 (1, 2 or 3)—Special Topics in Neuroscience

Prerequisites: Neuroscience 120 and junior standing. A seminar designed to provide the advanced student with a broader knowledge of the field of neuroscience. Specific topics will vary and will be determined, in part, by student interest. May be repeated for credit with permission and if the topics are different. *Staff.*

Fall, Winter

NEUROSCIENCE 403 (3)—Directed Individual Study

Prerequisites: Permission of the Neuroscience Faculty. Limited to students who have attempted unsuccessfully an honors thesis in neuroscience. Staff.

NEUROSCIENCE 493 (3-3)—Honors Thesis

Prerequisites: Senior standing and honors candidacy. Individual conference. *Staff.*

Fall-Winter