

FUN Core UG Neuroscience Competencies



1. Please Rank, from 1 (Highest) to 6 (Lowest) the following core competencies as they pertain to undergraduate neuroscience education. While it may be that you regard all of these competencies as essential, your feedback will help determine how well they are aligned with the expectations of graduate programs in the neurosciences and national curricular initiatives in STEM education. There will be an opportunity to identify other core competencies elsewhere in the survey.

	1 Most Essential	2	3	4	5	6 Least Essential	Rating Average	Response Count
Basic knowledge in Neuroscience/Biology/Chemistry/Psychology	32.0% (65)	19.2% (39)	13.8% (28)	14.8% (30)	8.4% (17)	11.8% (24)	2.84	203
Quantitative skills	0.5% (1)	4.9% (10)	10.3% (21)	23.2% (47)	29.6% (60)	31.5% (64)	4.71	203
Ability to think critically and integratively	37.9% (77)	25.6% (52)	20.2% (41)	10.8% (22)	3.9% (8)	1.5% (3)	2.22	203
Scientific inquiry/analytic skills/research skills	17.2% (35)	31.0% (63)	28.6% (58)	12.8% (26)	7.4% (15)	3.0% (6)	2.71	203
Communication skills	3.4% (7)	5.9% (12)	7.9% (16)	23.6% (48)	28.6% (58)	30.5% (62)	4.60	203
Independent thinkers, self-motivated learners	8.9% (18)	13.3% (27)	19.2% (39)	14.8% (30)	22.2% (45)	21.7% (44)	3.93	203
answered question								203
skipped question								0

2. Please rate the fundamental importance of the following components of a core competency in basic knowledge in neuroscience.

	Essential		Moderately Important		Nonessential	Rating Average	Response Count
Understanding the cellular and molecular function of neurons, including how neurons communicate.	77.0% (151)	19.4% (38)	3.6% (7)	0.0% (0)	0.0% (0)	1.27	196
Understanding development and plasticity of the nervous system.	21.4% (42)	44.4% (87)	28.6% (56)	4.1% (8)	1.5% (3)	2.20	196
Understanding of basic neuroanatomy.	44.4% (87)	27.0% (53)	23.0% (45)	5.1% (10)	0.5% (1)	1.90	196
Understanding of behavior and cognition, as they relate to neuroscience.	34.7% (68)	41.8% (82)	18.9% (37)	3.6% (7)	1.0% (2)	1.94	196
Understanding of sensory and motor systems, as they relate to neuroscience.	24.0% (47)	46.4% (91)	23.5% (46)	3.6% (7)	2.6% (5)	2.14	196
					Other (please specify & rate)		16
					answered question		196
					skipped question		7

3. Please rate the fundamental importance of the following components of a core competency in quantitative skills.

	Essential		Moderately important		Nonessential	Rating Average	Response Count
Ability to quantitatively manipulate data and information	36.7% (72)	42.9% (84)	18.4% (36)	2.0% (4)	0.0% (0)	1.86	196
Ability to analyze and interpret quantitative information, including graphs and statistics	76.0% (149)	18.9% (37)	5.1% (10)	0.0% (0)	0.0% (0)	1.29	196
Ability to represent information in a quantitative format.	34.7% (68)	45.4% (89)	18.9% (37)	1.0% (2)	0.0% (0)	1.86	196
					Other (please specify)		6
					answered question		196
					skipped question		7

4. Please rate the fundamental importance of the following components of a core competency in critical and integrative thinking.

	Most Essential		Moderately Important		Nonessential	Rating Average	Response Count	
Ability to read and analyze a primary research paper	62.7% (121)	32.1% (62)	5.2% (10)	0.0% (0)	0.0% (0)	1.42	193	
Ability to critique and develop experimental designs and methodology	43.0% (83)	42.0% (81)	13.5% (26)	1.6% (3)	0.0% (0)	1.74	193	
Ability to integrate findings from diverse fields to address a research question or develop a testable hypothesis.	35.8% (69)	45.1% (87)	15.0% (29)	3.6% (7)	0.5% (1)	1.88	193	
					Other (please specify)		4	
							answered question	193
							skipped question	10

5. Please rate the fundamental importance of the following components of a core competency regarding research skills.

	Most Essential		Moderately Important		Nonessential	Rating Average	Response Count
Ability to perform multiple techniques related to neuroscience research (specific techniques may vary, but include: anatomical techniques, electrophysiology, biochemical techniques, cell culture, behavioral studies, etc.)	7.8% (15)	31.6% (61)	45.1% (87)	11.9% (23)	3.6% (7)	2.72	193
Ability to develop a hypothesis and design experiments to test this hypothesis.	72.5% (140)	21.8% (42)	4.7% (9)	1.0% (2)	0.0% (0)	1.34	193
Ability to collect , analyze, and interpret data.	50.8% (98)	40.4% (78)	7.3% (14)	1.6% (3)	0.0% (0)	1.60	193
					Other (please specify)		5
answered question							193
skipped question							10

6. Please rate the fundamental importance of the following components of a core competency in communication skills.

	Most Essential		Moderately Important		Nonessential	Rating Average	Response Count
Ability to present information orally in an organized and understandable manner.	49.7% (96)	39.4% (76)	10.4% (20)	0.5% (1)	0.0% (0)	1.62	193
Ability to communicate scientific information in written format for scientific publication.	40.4% (78)	42.0% (81)	15.0% (29)	2.6% (5)	0.0% (0)	1.80	193
Ability to communicate scientific information to the lay public in both oral and written format.	25.4% (49)	36.3% (70)	31.1% (60)	6.7% (13)	0.5% (1)	2.21	193
					Other (please specify)		3
answered question							193
skipped question							10

7. Please rate the fundamental importance of the following components of a core competency in independent thinking/self-motivated learning.

	Most Essential		Moderately Important		Nonessential	Rating Average	Response Count	
Ability to find answers to questions that may not be specifically addressed in a course	49.7% (96)	37.8% (73)	11.9% (23)	0.5% (1)	0.0% (0)	1.63	193	
Ability to overcome barriers/impediments to learning/research.	23.8% (46)	47.7% (92)	23.3% (45)	5.2% (10)	0.0% (0)	2.10	193	
Ability to defend unique views/approaches/answers to well established phenomenon/theories based upon objective evidence	32.1% (62)	38.9% (75)	24.4% (47)	4.1% (8)	0.5% (1)	2.02	193	
					Other (please specify)		2	
							answered question	193
							skipped question	10

8. Please identify your Institution (this will help account for instances when their have been multiple respondents from the same institution).

	Response Count
	166
answered question	166
skipped question	37

9. Please select from the following options those attributes that best describes the undergraduate neuroscience program at your institutions.

Type of Undergraduate Program

	Major	Minor	Concentration	Other	Response Count
University	47.5% (38)	7.5% (6)	10.0% (8)	35.0% (28)	80
4yr College	46.7% (42)	8.9% (8)	23.3% (21)	21.1% (19)	90
Community College	0.0% (0)	0.0% (0)	0.0% (0)	100.0% (3)	3

Avg Number of Annual Graduates from the Program

	< 5	6 < 10	11 > 15	> 15	Response Count
University	41.8% (33)	13.9% (11)	6.3% (5)	38.0% (30)	79
4yr College	26.7% (24)	26.7% (24)	21.1% (19)	25.6% (23)	90
Community College	100.0% (2)	0.0% (0)	0.0% (0)	0.0% (0)	2

Other - If none of the choices above accurately describe your program, please do so below: 60

answered question	166
skipped question	37

10. Please indicate below the number of faculty in each departments that are active participants in your program (i.e., they are instructor of record for a course in the program).

Fulltime Faculty

	0	1	2	3	4	5	6	7	8	9	10
Neuroscience	61.9% (96)	9.7% (15)	3.9% (6)	5.8% (9)	3.9% (6)	2.6% (4)	0.6% (1)	1.9% (3)	1.3% (2)	0.0% (0)	1.3%
Biology	14.8% (24)	19.8% (32)	23.5% (38)	13.6% (22)	7.4% (12)	6.2% (10)	4.9% (8)	1.2% (2)	2.5% (4)	1.2% (2)	1.2%
Psychology	11.0% (18)	18.4% (30)	23.9% (39)	16.0% (26)	9.2% (15)	7.4% (12)	4.3% (7)	0.6% (1)	0.0% (0)	1.8% (3)	1.8%
Chemistry	57.1% (89)	17.3% (27)	11.5% (18)	2.6% (4)	3.8% (6)	3.2% (5)	0.6% (1)	0.0% (0)	1.3% (2)	0.0% (0)	1.3%
Biochemistry	75.0% (111)	12.8% (19)	5.4% (8)	0.0% (0)	2.7% (4)	1.4% (2)	0.0% (0)	0.7% (1)	0.7% (1)	0.0% (0)	0.0%
Computer Science & Mathematics	73.0% (111)	11.2% (17)	5.3% (8)	2.6% (4)	2.0% (3)	2.0% (3)	1.3% (2)	0.7% (1)	0.7% (1)	0.0% (0)	0.7%
Philosophy	69.3% (106)	14.4% (22)	6.5% (10)	5.2% (8)	2.0% (3)	0.7% (1)	1.3% (2)	0.0% (0)	0.0% (0)	0.0% (0)	0.0%
Other	71.3% (102)	15.4% (22)	4.9% (7)	1.4% (2)	0.7% (1)	1.4% (2)	2.8% (4)	0.0% (0)	0.0% (0)	0.0% (0)	0.0%

Fulltime Adjunct Faculty

	0	1	2	3	4	5	6	7	8	9	10
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Neuroscience	93.5% (145)	1.3% (2)	1.3% (2)	0.0% (0)	1.9% (3)	0.0% (0)	0.0% (0)	0.6% (1)	0.6% (1)	0.0% (0)	0.0%
Biology	89.0% (138)	4.5% (7)	2.6% (4)	0.6% (1)	0.6% (1)	0.6% (1)	0.0% (0)	0.0% (0)	0.6% (1)	0.0% (0)	0.6%
Psychology	90.3% (139)	5.2% (8)	1.3% (2)	0.6% (1)	0.0% (0)	0.6% (1)	0.0% (0)	0.0% (0)	0.6% (1)	0.0% (0)	0.6%
Chemistry	95.2% (140)	0.7% (1)	0.7% (1)	1.4% (2)	0.7% (1)	0.0% (0)	0.0% (0)	0.0% (0)	0.7% (1)	0.0% (0)	0.7%
Biochemistry	97.2% (141)	0.0% (0)	0.7% (1)	0.0% (0)	0.0% (0)	0.7% (1)	0.0% (0)	0.0% (0)	0.7% (1)	0.7% (1)	0.0%
Computer Science & Mathematics	95.2% (138)	1.4% (2)	0.0% (0)	0.0% (0)	1.4% (2)	0.7% (1)	0.0% (0)	0.0% (0)	0.7% (1)	0.0% (0)	0.7%
Philosophy	96.6% (140)	0.7% (1)	0.7% (1)	0.7% (1)	0.0% (0)	0.7% (1)	0.0% (0)	0.0% (0)	0.7% (1)	0.0% (0)	0.0%
Other	96.4% (135)	1.4% (2)	0.7% (1)	0.0% (0)	0.0% (0)	0.7% (1)	0.0% (0)	0.0% (0)	0.0% (0)	0.0% (0)	0.7%

Part-time Faculty/Staff

	0	1	2	3	4	5	6	7	8	9	10
Neuroscience	87.7% (135)	5.2% (8)	3.9% (6)	0.6% (1)	0.6% (1)	0.0% (0)	0.0% (0)	0.0% (0)	0.0% (0)	0.0% (0)	0.6%
Biology	86.8% (132)	5.9% (9)	3.3% (5)	1.3% (2)	0.7% (1)	0.0% (0)	0.0% (0)	0.0% (0)	0.0% (0)	0.0% (0)	0.0%
Psychology	88.7% (134)	6.6% (10)	2.0% (3)	0.7% (1)	0.7% (1)	0.0% (0)	0.0% (0)	0.0% (0)	0.0% (0)	0.0% (0)	0.0%

Chemistry	91.9% (136)	2.0% (3)	0.7% (1)	1.4% (2)	2.0% (3)	0.0% (0)	0.0% (0)	0.0% (0)	0.0% (0)	0.0% (0)	0.0%
Biochemistry	95.8% (138)	0.7% (1)	0.7% (1)	0.0% (0)	0.7% (1)	0.7% (1)	0.0% (0)	0.0% (0)	0.0% (0)	0.7% (1)	0.0%
Computer Science & Mathematics	94.5% (137)	2.1% (3)	0.7% (1)	1.4% (2)	0.7% (1)	0.0% (0)	0.0% (0)	0.0% (0)	0.0% (0)	0.0% (0)	0.0%
Philosophy	97.2% (140)	0.0% (0)	1.4% (2)	0.0% (0)	1.4% (2)	0.0% (0)	0.0% (0)	0.0% (0)	0.0% (0)	0.0% (0)	0.0%
Other	97.1% (135)	1.4% (2)	0.0% (0)	0.7% (1)	0.0% (0)	0.0% (0)	0.0% (0)	0.0% (0)	0.0% (0)	0.0% (0)	0.0%

If you selected Other - please indicate the departments.

	an
	s

11. Does your institution offer a graduate degree in neuroscience ?

	Yes	No	Response Count
MS	13.3% (22)	86.7% (144)	166
PhD	24.1% (40)	75.9% (126)	166
		answered question	166
		skipped question	37

12. Please indicate which of the Core Competencies are used in your program for the purposes of curricular development and student or program assessment.

	Curricular Development	Student Assessment	Program Assessment	NA	Response Count
- Basic knowledge in Neuroscience/Biology/Chemistry/Psychology	74.3% (113)	68.4% (104)	40.1% (61)	11.8% (18)	152
- Quantitative Skills	57.2% (83)	64.1% (93)	28.3% (41)	17.2% (25)	145
- Critical and Integrative Thinking	54.3% (82)	66.9% (101)	38.4% (58)	17.9% (27)	151
- Research Skills	57.4% (85)	63.5% (94)	39.2% (58)	18.9% (28)	148
- Communication Skills	49.3% (74)	72.7% (109)	38.0% (57)	14.0% (21)	150
- Independent Thinkers/Self-motivated Learners	34.5% (48)	45.3% (63)	19.4% (27)	37.4% (52)	139
				answered question	153
				skipped question	50