

**University of Michigan - Department of Psychology**  
**Biopsychology, Cognition and Neuroscience (BCN) Major Worksheet**

Effective 9/4/2012

The following are Departmental requirements for the major in Biopsychology, Cognition, and Neuroscience (BCN).

- Students may declare the BCN major once they have passed an Introductory Psychology course (with a "C" or better), Statistics 250, two Gateway courses and complete an online Orientation. The combined GPA of these four courses must be a 2.0 or higher.
- Some courses that are graded "credit/no credit" may be used to satisfy the categorical requirement for a laboratory course, but do not count toward the 24 credits needed to complete the BCN major.
- Note that all courses, including pre-requisites, must be taken for a letter grade (with the exception of selected non-graded experiential labs).
- BCN majors are urged to consult with an advisor within the Department at least once per year to review their progress toward the major requirements.

<b>PRE-REQUISITES TO DECLARE THE MAJOR</b>	Last Taught	# of Seats	Credits UM-AA	MHP
<p>Note: Credits from pre-requisites do not count toward the 24 required major credits. Courses shown below where the "Credits" column is shaded cannot be applied toward the 24 major credit minimum.</p>				
<input type="checkbox"/> <b>Complete one Introductory Psychology Course (with a "C" or better):</b>				
111 (Introduction to Psychology)	Fall/Winter	1200	4	
112 (Introduction to Psychology as a Natural Science)	Fall/Winter	480	4	
114 (Honors Introduction to Psychology)			4	
115 (Honors Introduction to Psychology as a Natural Science)			4	
<input type="checkbox"/> <b>Complete Statistics Course:</b>				
Stats 250 (Introduction to Statistics and Data Analysis)			4	
<input type="checkbox"/> <b>Complete two Gateway Courses (all 3 groups required to complete major):</b>				
<p>Note: One course from each of the following three gateway groups must be completed. Courses used to satisfy the gateway course requirement may not also be used toward the advanced course requirement.</p>				
<b>Biopsychology Gateway</b>				
230 (Introduction to Biopsychology) OR	Fall/Winter	300	4	
335 (Introduction to Animal Behavior)	Fall term	225	4	
<b>Cognitive Psychology Gateway</b>				
240 (Introduction to Cognitive Psychology) OR	Fall/Winter	425	4	
345 (Introduction to Human Neuropsychology) OR	Once/Year	150	4	
245 (Cognitive Neuroscience)	Once/Year	225	4	
<b>Social Science Gateway</b>				
250 (Introduction to Developmental Psychology) OR	Fall/Winter	300	4	
260 (Introduction to Organizational Psychology) OR	Once/Year	300	4	
270 (Introduction to Psychopathology) OR	Fall/Winter	300	4	
280 (Introduction to Social Psychology) OR	Fall/Winter	300	4	
290 (Introduction to Personality Psychology) OR	Once/Year	240	4	
291 (Introduction to the Psychology of Women and Gender)	Once/Year	120	4	
<p>Note: A total of 3 Gateway courses, one from each Group, is required. Two of the Gateway courses count toward the pre-requisite requirement, and one of the Gateway courses can be counted toward the 24 credits needed to complete the BCN major. Please fill in your third Gateway course, that will count toward the major requirements, on the next page.</p>				

MAJOR REQUIREMENTS		Last Taught	# of Seats	Credits UM-AA	MHP
<input type="checkbox"/> <b>Gateway Requirement:</b>					
Write in the 3rd Gateway Course, listed on the previous page, used to fulfill your major requirements.					
COURSE # and NAME:				4	
<input type="checkbox"/> <b>BCN Lab Requirement</b>					
The lab requirement must be met in one of the following three ways for a minimum of 5 credits. Each course must be taken for at least 2 credits in a single term. Please note that at least one course must be within the Psychology Department (only one Bio-based lab may be used).					
<ul style="list-style-type: none"> <li>■ Option 1: One course from A (Methods Based Labs) AND one course from B (Research Based Labs)</li> <li>■ Option 2: Two courses from A (Methods Based Labs)</li> <li>■ Option 3: Honors Thesis, Senior Thesis, or Advanced Research. Students must have their plan approved by a concentration advisor. See below for details.</li> </ul>					
<b>A – Methods-Based Labs</b>					
302 (Research Methods in Cognitive Neuroscience)	Fall/Winter	150	3		
303 (Research Methods in Psychology)	Fall/Winter	240	3		
331 (Research Methods in Brain, Behavior, and Cognitive Science) by application	Fall/Winter	50	4		
341 (Advanced Laboratory in Cognitive Psychology)	Fall/Winter	25	4		
422 (Faculty Directed Advanced Research/Natural Science)			2-4		
423 (Faculty Directed Advanced Research/Upper Level Writing)			2-4		
Biology 226 (Animal Physiology Laboratory)			2		
EEB 381 (General Ecology)			5 - 6		
EEB 493 (Laboratory in Animal Behavior)			3		
MCDB 306 (Introductory Genetics Laboratory)			3		
MCDB 308 (Developmental Biology Laboratory)			3		
MCDB 423 (Introduction to Research in Cellular and Molecular Neurobiology)			3		
<b>B – Research-Based Labs</b>					
322 (Field Practicum in Research Techniques/Natural Science)*			C/NC		
326 (Faculty Directed Early Research for Psychology as a Natural Science)			2 - 4		
422 (Faculty Directed Advanced Research/Natural Science)			2 - 4		
423 (Faculty Directed Advanced Research/Upper Level Writing)			2 - 4		
Note: Experiential based labs that are non-graded (graded Credit/No Credit) may fulfill the categorical requirement for this lab, however, the credits do not count toward the 24 concentration credits. If credit amounts are listed next to the course, the credits may be applied to the 24 concentration credits. Students are allowed a maximum of 6 credits total toward their degree of the following courses: 322, 323, 326, 327.					
<b>Psychology Thesis Options:</b>					
<i>Honors or Senior Thesis Research Sequence - Honors and Senior Thesis courses are considered to be experiential lab credit. Students may use Psych 424 or first term of 428 as a second lab or an advanced course; Students may use Psych 426 or second term of 428 as a methods lab, second lab or advanced course. More than one course cannot be used as advanced courses. Must see an Advisor to determine how these courses will count towards your plan.</i>					
424 (Senior Honors Research I/Natural Science)			2 - 4		
426 (Senior Honors Research II/Natural Science/Upper Level Writing)			2 - 4		
428 (Senior Thesis: Research in Psychology as a Natural Science) term I			3		
428 (Senior Thesis: Research in Psychology as a Natural Science/Upper Level Writing) term II			3		
<input type="checkbox"/> <b>BCN Cognate Requirement</b>					
One course from this list or a Psychology 300-400 level course (lect/sem) <b>not</b> on the BCN Advanced Course list (below) is required.					
Anthrobio 467 (Human Behavioral Ecology)			3 - 4		
Anthrobio 478 (568) (Primate Behavioral Ecology and Sociobiology)			3		
Biolchem 415 (Introduction to Biochemistry)			3		
Biology 208 (Embryology)			3		
Biology 222 (From Message to Mind: An Introduction to Neurobiology)			3		
Biology 225 (Principles of Animal Physiology: Lecture)			3		
Biology 305 (Genetics)			3		
MCDB 310 or 311 (Intro to Biochemistry) or Chem 351 (Fundamentals of Biochemistry)			4		
COGSCI 200 (Intro to Cognitive Science)			4		
EEB 381 (General Ecology)			5 - 6		
EEB (BIO) 390 (Evolution)			3		
EEB 440/Environ 442/NRE 442 (Biology of Fishes)			3		
EEB 442 (Biology of Insects)			5		
EEB 450 (Biology of Amphibians and Reptiles)			5		
EEB 451/Environ 451/NRE 451 (Biology of Mammals)			4		
EEB 481 (Population Dynamics and Ecology)			4		

EEB 492 (Behavioral Ecology)			4 - 5
EECS 281 (Data Structures and Algorithms)			4
EECS 492 (Introduction to Artificial Intelligence)			4
Ling 315 (Introduction to Syntax)			2 - 3
Ling 514 (Semantics and Pragmatics)			3
MCDB 307 (Developmental Biology)			3
MCDB 418 (Endocrinology)			3
MCDB 422 (Cellular and Molecular Neurobiology)			3
Phil 340 (Minds and Machines)			4
Phil 345 (Language and Mind)			2 - 3
Phil 450 (Philosophy of Cognition)			3
Phil 482 (Philosophy of Mind)			2 - 3
Stats 401 (Applied Statistical Methods II)			4
Stats 406 (Introduction to Statistical Computing)			4

**BCN Advanced Course Requirement**

Any four courses from this pre-approved list for a minimum of 12 credits are required. Psych 230, 335, 240, or 345 may be used only if they are not used for the pre-requisite gateway requirement. Due to course size/availability, it is expected that you will take a combination of lecture and seminar based courses. This is a general guideline of when courses are taught; it is subject to change. Courses in Psychology (upper level, 300+, lecture/seminar based) **not** on this list may be used to satisfy Cognate requirement.

**Lecture Courses:**

230 (Introduction to Biopsychology)	Fall/Winter	300	4
240 (Introduction to Cognitive Psychology)	Fall/Winter	425	4
245 (Cognitive Neuroscience)	Once/Year	225	4
335 (Introduction to Animal Behavior)	Fall term	225	4
338 (Primate Social Behavior I)	Fall term	300	4
345 (Introduction to Neuropsychology)	Once/Year	150	4
347 (Perception)	Fall/Winter	30	3
356 (Educational Psychology)	Fall term	180	4
436 (Drugs of Abuse, Brain, and Behavior)	Once/Year	200	3
438 (Hormones and Behavior)	Fall/Winter	75	3
442 (Perception, Science, and Reality)	Fall/Winter	60	3
449 (Decision Processes)	Fall term	60	3
458 (Psychology of Adolescence)	Win term	120	3
515/EPID 509 (Evolution, Behavior, and Public Health)	Once/Year	50	3
532 (Mammalian Reproductive Endocrinology)	Win term	100	4
533 (Sleep: Neurobiology, Medicine, & Society)	Fall term	100	3

**Seminar Courses:**

344 (Second Language Acquisition)	Win term	30	3
346 (Learning and Memory)	Once/Year	60	3
348 (Psychology of Thinking)	Once/Year	60	3
349 (Talking Minds)	Fall/Winter	40	3
352 (Development of Language and Thought)	Once/Year	30	3
355 (Cognitive Development)	Once/Year	30	3
359 (Psychology of Aging)	Occasional	30	3
400 (Special Problems in Psychology as a Natural Science)	Fall/Winter	40	3 - 4
402 (Special Problems in Psychology)	Fall/Winter	30	2 - 4
413 (History of Modern Psychology)	Fall term	25	3
430 (Sexuality and Science)	Win term	60	3
431 (The Neuroscience of Attention and Attentional Disorders)	Occasional		3
433 (Biopsychology of Motivation)	Once/Year	30	3
434 (Biopsychology of Learning and Memory)	Occasional		3
435 (Biological Rhythms and Behavior)	Occasional		3
437 (Current Topics in Biopsychology)	Fall/Winter	30	3
439 (Behavioral Biology of Women)	Occasional		4
445 (Psychology of Language)	Once/Year	40	3
447 (Current Topics in Cognition and Cognitive Neuroscience)	Fall/Winter	30	3
448 (Mathematical Psychology)	Occasional		3
509 (Advanced Statistics for Psychology)	Fall term	30	4
530 (Advanced Topics in Comparative and Evolutionary Psychology)	Once/Year	30	3
531 (Advanced Topics in Biopsychology)	Occasional		3
541 (Advanced Topics in Cognition and Cognitive Neuroscience)	Occasional		3

**Independent Study Courses:**

420 (Faculty Directed Advanced Tutorial Reading - Natural Science)			3 - 6
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**Psychology GPA Requirement**

A student must earn a cumulative grade point average (GPA) of at least 2.0 in all courses taken within the Psychology Department. This includes any course taken in the Department such as pre-requisites, required courses, electives, and cognates (courses taken outside of psychology, but used toward the major or pre-requisites, for example, Stats 250). Transfer courses are not calculated into the GPA unless the grade appears on the official UM transcript.

**CALCULATING YOUR GPA**

	Credits	MHP	GPA
Divide the total number of Michigan Semester Hours (MSH), i.e. number of credits, earned in psychology courses, and courses taken outside of the department that are used to fulfill any Psychology requirement, into the total number of Michigan Honor Points (MHP) earned from those courses. Total MHP / Total MSH = GPA			

## BCN MAJOR QUICK FACTS

► The following credits do not count toward the 24 major credits you need:

- Introduction to Psychology
- Two of the three required Gateway Courses
- 100-level courses
- 200-level elective courses (with the exception of Psych 202-natural science-based)
- Pass/Fail or Credit/No Credit courses or labs

► The core courses consist of one Biopsychology and one Cognitive Psychology course. Notice that all four of these courses are listed under Advanced Courses as well. The courses you do not use toward the pre-requisite gateway requirement may be elected to count toward the advanced courses. You can only use each course once, either toward the pre-requisite gateway requirement or the advanced course requirement.

► Credits from your Statistics course do not count toward the 24. We recommend that you take Stats early in your coursework since it is a pre-requisite for methods-based labs and several of the gateway (Core) courses.

► For your labs:

- One must be a [Methods Lab](#). This can be in the Psychology or Biology Departments.
- Your 2<sup>nd</sup> lab may be [Research-Based](#)

Note: Your two lab courses combined must total at least 5 credits and must be taken for at least 2 credits each. Only one Biology-based lab may count toward the BCN major. Credit/No Credit experiential labs will fulfill the categorical requirement for a second lab, but the credits will not count toward the 24major credits. They do count toward the LSA 120 required for a BA or BS degree.

► **Advanced Elective Credits** must be letter graded Psychology courses from the pre-approved list. You will need to take at least 4 courses for a minimum of 12 credits.

► **Get involved in Research!** If you are planning on attending any type of graduate program, especially within the field of Psychology, you will need research experience. You can do this for research-based lab credit. Please see the Psychology Student Academic Affairs Office for more information.

► **Transfer courses** may be applied toward your major, but at least 24 of your total 40 credits (includes pre-requisite and major credits) must be taken through the Psychology Department in Ann Arbor. Of those 24 in-house credits, at least 12 credits must be in upper level courses (300+, letter graded) in Psychology.

► **Registration Tip:** If courses are closed:

- Watch Wolverine Access for openings and/or waitlists
- Attend first day of class and speak with the GSI or Professor (If class has a discussion section, you must get permission from the GSI to be enrolled in the section, then you will automatically be enrolled in the corresponding lecture.)

► **Calculating BCN Grade Point Average:** GPA=MHP/MSH – Include all Psych department courses and any cognates or courses from other departments counting toward your major (e.g., your cognate). This includes the Intro Psych, any first year seminars, extra breadth courses, psychology courses that have been repeated or failed, and any other graded psychology courses. \*You must have an overall major GPA of at least 2.0 in order to graduate!

► **Middle Digit Trick:** The middle digit of Psychology Department undergraduate courses indicates the area of Psych with which the course is associated:

- 0, 1, 2=General
- 3=Biopsychology
- 4=Cognitive
- 5=Developmental
- 6=Organizational
- 7=Clinical
- 8=Social
- 9=Personality

**See an advisor at least once a year to review your progress!**