B.A. IN MUSIC *PLUS* A SECONDARY MAJOR IN NEUROSCIENCE

• The B.A. degree in Music requires 120 credits.
--66 hours must be non-music credits.
--40 hours must be 300 or 400-level courses.
--All music majors have Arts Event Attendance Requirements; for details, check https://www.butler.edu/jca/for-current-students.

• The double major of Music and Neuroscience will fulfill the following Areas of Inquiry in the University Core Curriculum: Perspectives of the Creative Arts, The Social World, and The Natural World. In addition, the B.A. Music curriculum fulfills the Butler Cultural Requirement because of the arts event attendance requirements for all arts majors. The Indianapolis Community Requirement is NOT satisfied.

• Neuroscience majors are required to choose at least one area of concentration: Biological, Computational, or Psychological. The plan below includes the courses required for the Biological concentration; the requirements for the Computational and Psychological concentrations are listed at the end of the Summary.

• The student will be assigned a Neuroscience advisor in addition to their Music advisor.

Semester 1			***Semester 2***		
AM 021*	Keyboard Skills 1	1	AM 022	Keyboard Skills 2	1
**Piano majors substitute AM 031 and AM 032 plus two credits of music electives for AM 021,022,023,024.*					
AM ____	Major Instrument or Voice	2	AM ____	Major Instrument or Voice	2
ES ____	Major Ensemble	1	ES ____	Major Ensemble	1
MT 101	Music Theory 1	3	MT 102	Music Theory 2	3
MT 111	Aural Skills 1	1	MT 112	Aural Skills 2	1
FYS 101	First Year Seminar	3	FYS 102	First Year Seminar	3
WB ____	Well-Being	1			
BI 210	Genetics-Fundamentals	4	BI 220	Cell & Molecular Bio-Fund	4
NS 110	Intro to Neuroscience	2	SW 250-PS	Psychological Inquiry	3
TOTAL Credit Hours:		18			18

Semester 3			***Semester 4***		
AM 023	Keyboard Skills 3	1	AM 024	Keyboard Skills 4	1
AM ____	Major Instrument or Voice	2	AM ____	Major Instrument or Voice	2
ES ____	Major Ensemble	1	ES ____	Major Ensemble	1
MT 201	Music Theory 3	3	ME 330	Self-Representation for Mus	1
MT 211	Aural Skills 3	1	MT 202	Music Theory 4	3
			MT 212	Aural Skills 4	1
BI 230	Eco & Evol Bio-Fundamentals	4	BI 250	Biostatistics-Fundamentals	4
CH 105*	General Chemistry 1	4	CH 106*	General Chemistry 2	4

TOTAL Credit Hours:	16	17

**Students who received a score of 4 or 5 on the AP Chemistry test should register for CH 107. Students without AP credit should take the on-line placement test prior to enrolling in CH 105/106; an especially strong background in high school chemistry might also suggest taking CH 107.*

Semester 5			***Semester 6***		
AM ____	Major Instrument or Voice	2	AM ____	Major Instrument or Voice	2
ES ____	Major Ensemble	1	ES ____	Major Ensemble	1
MH 305	Music and Devotion	3	MH 306	Music and Narrative	3
			GHS ____	Global and Historical Studies	3
BI 460	Cell & Mole Neurobiology	4	NS 210	Multidisc Approaches to Neuro	2
PS 370	Biological Bases of Behavior	3	SE 132	Intro to Python Programming	3
Language Elective		3	Language Elective		3
Explanation: 6 hours of the same language at the 200-level or higher are required.					
TOTAL Credit Hours:		16			17

Semester 7			***Semester 8***		
AM ____	Major Instrument or Voice	2	AM ____	Major Instrument or Voice	2
ES ____	Major Ensemble	1	ES ____	Major Ensemble	1
MH 307	Music, Globalization & Industry	3	ME 430	E-Portfolio Capstone	0
			MH 308-SJD	Music and Movement	3
AR ____	Analytic Reasoning	3			
TI ____	Texts and Ideas	3	GHS ____	Global and Historical Studies	3
PL 346	Philosophy of Mind	3	NS 410	Big Questions in Neuroscience	2
PS ____	PS 412 or PS 413	3	PL 343	Philosophy of Science	3
			BI/RX ____	Approved Elective	4
TOTAL Credit Hours:		18			18

SUMMARY

REQUIRED MUSIC COURSES:

Note: The 8-semester sequence shown above includes 4 additional semesters of Applied Music (8 credits) and 2 additional semesters of Major Ensemble (2 credits), in addition to the courses listed below. While not required in the B.A. degree, most music majors will take these additional classes for scholarship reasons.

AM 021,022,023,024	Keyboard Skills 1,2,3,4	4
**Piano majors substitute AM 031 and AM 032 plus two credits of music electives.*		
AM ____	Major Instrument or Voice	8
ES ____	Major Ensemble	6
ME 330	Self-Representation for Musicians	1
ME 430	E-Portfolio Capstone	0
MH 305	Music and Devotion	3
MH 306	Music and Narrative	3
MH 307	Music, Globalization, and Industry	3
MH 308-SJD	Music and Movement	3
MT 101	Music Theory 1	3
MT 111	Aural Skills 1	1
MT 102	Music Theory 2	3
MT 112	Aural Skills 2	1
MT 201	Music Theory 3	3
MT 211	Aural Skills 3	1
MT 202	Music Theory 4	3
MT 212	Aural Skills 4	1
	TOTAL	***47 (plan shows 57 music credits per the note above)***

UNIVERSITY CORE CURRICULUM:

FYS 101,102	First Year Seminar	3,3
GHS ____	Global and Historical Studies	3,3
AR ____	Analytic Reasoning	3
TI ____	Texts and Ideas	3
WB ____	Well-Being	1
	TOTAL	***19***

COURSES REQUIRED FOR THE NEUROSCIENCE MAJOR:

BI 210	Genetics –Fundamentals	4
BI 220	Cellular & Molecular Bio—Fundamentals	4
NS 110	Introduction to Neuroscience	2
NS 210	Multidisciplinary Appr to Neuroscience	2
NS 410	Big Questions in Neuroscience	2
PL 343	Philosophy of Science	3
PL 346	Philosophy of Mind	3
PS 370	Biological Bases of Behavior	3
SW 250-PS	Psychological Inquiry	3
ONE of the following courses:		3
PS 412	Advanced Applied Neuroscience	
PS 413	Neuroscience of Drugs	
ONE of the following courses:		3-4
BI 460	Cellular and Molecular Neurobiology (4)*	

**Required for students enrolled in the Biological Neuroscience Concentration and included in the plan above*

NS 460	Cellular and Molecular Neurobiology (3)	
Language	6 hours of the same language at the 200-level or higher	
	TOTAL	***38-9***

Additional courses required for the Biological Neuroscience Concentration (included in the plan above)

BI 230	Ecology & Evolutionary Bio–Fundamentals	4
BI 250	Biostatistics—Fundamentals	4
CH 105*,106*	General Chemistry 1,2	4,4
SE 132	Introduction to Python Programming	3
ONE Elective course chosen from:		4
BI 320	Animal Behavior	
BI 370	Basics of Microscopy	
BI 411	Principles of Physiology	
BI 430	Animal Development	
BI 433	Advanced Cell Biology	
BI 435	Molecular Genetics	
RX 610	Special Top in PHS: Rec Adv in Neuropharmacology	

Additional courses required for the Computational Neuroscience Concentration

BI 250	Biostatistics—Fundamentals	4
CS 142	Introduction to Computer Science & Progr	3
CS 151	Foundations of Computing 1	3
DS 310	Introduction to Data Science	3
DS 320	Data Engineering and Curation	3

Additional courses required for the Psychological Neuroscience Concentration

PS 210	Research Methods/Statistics 1	3
PS 211	Research Methods/Statistics 2	3
ONE of the following courses:		3
PS 385	Cognitive Processes	
PS 404	Sensory Processes and Perception	
ONE of the following courses:		3
PS 412	Advanced Applied Neuroscience	
PS 413	Neuroscience of Drugs	
RX 610	Special Top in PHS: Rec Adv in Neuropharmacology	
SE 132	Introduction to Python Programming	3

**Students who received a score of 4 or 5 on the AP Chemistry test should register for CH 107. Students without AP credit should take the on-line placement test prior to enrolling in CH 105/106; an especially strong background in high school chemistry might also suggest taking CH 107.*