

B.A. IN MUSIC PLUS A SECONDARY MAJOR IN DATA SCIENCE

- The B.A. degree in Music requires 124 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 Data Science will fulfill the following Areas of Inquiry in the University Core Curriculum: Perspectives of the Creative Arts and Analytic Reasoning. In addition, the B.A. Music curriculum fulfills the Social Justice and Diversity requirement of the Butler University Core Curriculum; music majors are exempted from the Butler Cultural Requirement because of the arts event attendance requirements for all arts majors. The Indianapolis Community Requirement is NOT satisfied.
- The student will be assigned a Data Science advisor in addition to their Music advisor.

Semester 1

AM 021*	Keyboard Skills 1	1
<i>*If the major instrument is piano, the student should take AM 031, Piano Major: Keyboard Skills 1 and AM 032, Piano Major: Keyboard Skills 2 instead of AM 021, AM 022, AM 023, and AM 024.</i>		
AM ____	Major Instrument or Voice	2
ES ____	Major Ensemble	1
MT 101	Music Theory 1	3
MT 111	Aural Skills 1	1
FYS 101	First Year Seminar	3
CS 142	Intro to Comp Sci and Program	3
CS 151	Foundations of Computing 1	3

TOTAL Credit Hours: 17

Semester 2

AM 022*	Keyboard Skills 2	1
AM ____	Major Instrument or Voice	2
ES ____	Major Ensemble	1
MT 102	Music Theory 2	3
MT 112	Aural Skills 2	1
FYS 102	First Year Seminar	3
SW ____	The Social World	3
CS 252	Foundations of Computing 2	3

TOTAL Credit Hours: 17

**Math placement test required; the student may need to take MA 101 (Algebra, 3 cr.) and/or MA 102 (Precalculus, 3 cr.) prior to MA 106. Students get credit for MA 106 if they receive a 4 or 5 on the Calculus AB AP exam; they receive credit for both MA 106 and MA 107 if they receive a 4 or 5 on the Calculus BC AP exam with a 4 or 5 on the AB subscore.*

Semester 3

AM 023	Keyboard Skills 3	1
AM ____	Major Instrument or Voice	2
ES ____	Major Ensemble	1
MT 201	Music Theory 3	3
MT 211	Aural Skills 3	1

Semester 4

AM 024	Keyboard Skills 4	1
AM ____	Major Instrument or Voice	2
ES ____	Major Ensemble	1
ME 330	Self-Representation for Mus	1
MT 202	Music Theory 4	3
MT 212	Aural Skills 4	1

GHS ____	Global and Historical Studies	3			
CS 333	Database Systems	3	CS 248	Object-Orient Prog & Data Str	5
MA 106*	Calculus & Anal. Geo. 1	4	MA 107	Calculus & Anal. Geo. 2	4
TOTAL Credit Hours:		18	18		

**Math placement test required; the student may need to take MA 101 (Algebra, 3 cr.) and/or MA 102 (Precalculus, 3 cr.) prior to MA 106. Students get credit for MA 106 if they receive a 4 or 5 on the Calculus AB AP exam; they receive credit for both MA 106 and MA 107 if they receive a 4 or 5 on the Calculus BC AP exam with a 4 or 5 on the AB subscore.*

Semester 5

AM ____	Major Instrument or Voice	2
ES ____	Major Ensemble	1
MH 308-SJD	Music in Global Contexts	3
TI ____	Texts and Ideas	3
PWB ____	Physical Well-Being	1
CS 351	Algorithms	3
MA 162	Elementary Statistics	3
Language Elective		3

Explanation: 6 hours of the same language at the 200-level or higher are required.

TOTAL Credit Hours: 19

Semester 6

AM ____	Major Instrument or Voice	2
ES ____	Major Ensemble	1
MH 305	Music History 1	2
GHS ____	Global and Historical Studies	3
CS 341	Advanced Data Structures	3
MA 310	Linear Algebra	3
Language Elective		3

TOTAL Credit Hours: 17

Semester 7

AM ____	Major Instrument or Voice	2
ES ____	Major Ensemble	1
MH 306	Music History 2	3
NW ____	The Natural World	5
CS 485	Computer Ethics	1
MA 360	Probability Theory 1	3
MA 362	Linear Regress & Time Series	3

TOTAL Credit Hours: 18

Semester 8

AM ____	Major Instrument or Voice	2
ES ____	Major Ensemble	1
ME 430	E-Portfolio Capstone	0
MH 307	Music History 3	3
CS 445	Artificial Intelligence	3
MA 361	Statistical Theory	3
MA 369	Multivariate Statis Methods	3
MA 468	Predict Analy & Data Mining	3

TOTAL Credit Hours: 18

SUMMARY

REQUIRED MUSIC COURSES:

Note: The 8-semester sequence shown above includes AM 021 and AM 022, as well as 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 placement or scholarship reasons.

AM 023,024*	Keyboard Skills 3,4	2
*AM 031 & AM 032 if major instrument is piano		
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 History and Literature 1	2
MH 306	Music History and Literature 2	3
MH 307	Music History and Literature 3	3
MH 308-SJD	Music in Global Contexts	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		44 (plan shows 56 music credits per the note above)

UNIVERSITY CORE CURRICULUM:

FYS 101,102	First Year Seminar	3,3
GHS ____	Global and Historical Studies	3,3
NW ____	The Natural World	5
SW ____	The Social World (if needed)	3
TI ____	Texts and Ideas	3
PWB ____	Physical Well-Being	1
TOTAL		24

COURSES REQUIRED FOR THE DATA SCIENCE MAJOR:

CS 142	Intro to Computer Science and Programming	3
CS 151	Foundations of Computing 1	3
CS 248	Object-Oriented Prog & Data Structures	5
CS 252	Foundations of Computing 2	3
CS 333	Database Systems	3
CS 341	Advanced Data Structures	3
CS 351	Algorithms	3
CS 445	Artificial Intelligence	3
CS 485	Computer Ethics	1
MA 106*	Calculus and Anal Geometry 1	4
MA 107	Calculus and Anal Geometry 2	4
MA 162	Elementary Statistics	3
MA 310	Linear Algebra	3

MA 360	Probability Theory 1	3
MA 361	Statistical Theory	3
MA 362	Linear Regression and Time Series	3
MA 369	Multivariate Statistical Methods	3
MA 468	Predictive Analytics and Data Mining	3
Language	6 hours of the same language at the 200-level or higher	
TOTAL		62

**Math placement test required; the student may need to take MA 101 (Algebra, 3 cr.) and/or MA 102 (Precalculus, 3 cr.) prior to MA 106. Students get credit for MA 106 if they receive a 4 or 5 on the Calculus AB AP exam; they receive credit for both MA 106 and MA 107 if they receive a 4 or 5 on the Calculus BC AP exam with a 4 or 5 on the AB subscore.*