B.A. IN MUSIC PLUS A SECONDARY MAJOR IN SOFTWARE ENGINEERING

• 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 Software Engineering will fulfill the following Areas of Inquiry in the University Core Curriculum: Perspectives of the Creative Arts, Analytic Reasoning, and the Indianapolis Community Requirement. 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 student will be assigned a Software Engineering advisor in addition to their Music advisor.

Semester 1

Code	Course	Credits
AM 021*	Keyboard Skills 1	1

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.

Code	Course	Credits
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
PWB ____	Physical Well-Being	1
CS 151	Foundations of Computing 1	3
Language Elective		3

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

TOTAL Credit Hours: 18

Semester 2

Code	Course	Credits
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
CS 252	Foundations of Computing 2	3
Language Elective		3

TOTAL Credit Hours: 17

Semester 3

Code	Course	Credits
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
GHS ____	Global and Historical Studies	3
CS 333	Database Systems	3

Semester 4

Code	Course	Credits
AM 024	Keyboard Skills 4	1
AM ____	Major Instrument or Voice	2
ES ____	Major Ensemble	1
ME 330	Self-Represent for Musicians	1
MT 202	Music Theory 4	3
MT 212	Aural Skills 4	1
SW ____	The Social World	3
CS 248	Obj-Orient Program & Data Str	5

| CS 351 | Algorithms | 3 | SE 361 | Intro to Software Engineering | 3 |

| TOTAL Credit Hours: | | 17 | | | 20 |

Semester 5

AM ____	Major Instrument or Voice	2
ES ____	Major Ensemble	1
MH 308-SJD	Music in Global Contexts	3
GHS ____	Global and Historical Studies	3
CS 321	Computer Organization	3
CS 485	Computer Ethics	1
MA 106*	Calculus & Anal. Geo. 1	4
SE 462	Modernizing Legacy Soft	3

| TOTAL Credit Hours: | | 20 |

Semester 6

AM ____	Major Instrument or Voice	2
ES ____	Major Ensemble	1
MH 305	Music History 1	2
CS 382/3-ICR	Epics 2 Service Learning	2-3
CS 452	Parallel Algor Des & Program	3
MA 107	Calculus & Anal. Geo. 2	4
SE 461	Managing Software Dev	3

| TOTAL Credit Hours: | | 17-18 |

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 7

AM ____	Major Instrument or Voice	2
ES ____	Major Ensemble	1
MH 306	Music History 2	3
NW ____	The Natural World	5
CS ____	CS 435 or CS 441	3
MA 162	Elementary Statistics	3
SE 411	Internship Practicum	1
SE 412	Internship Reflection	2

| TOTAL Credit Hours: | | 20 |

Semester 8

AM ____	Major Instrument or Voice	2
ES ____	Major Ensemble	1
ME 430	E-Portfolio Capstone	0
MH 307	Music History 3	3
TI ____	Texts and Ideas	3
CS 311	Voc Exploration in Comp Sci	1
CS 341	Advanced Data Structures	3
SE 463	Testing & Quality Assurance	3
CS/SE ____	Elective	3

| | | 19 |

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 SOFTWARE ENGINEERING MAJOR:

CS 151	Foundations of Computing 1	3
CS 248	Object-Oriented Prog & Data Structures	5
CS 252	Foundations of Computing 2	3
CS 311	Vocational Exploration in Computer Science	1
CS 321	Computer Organization	3
CS 333	Database Systems	3
CS 341	Advanced Data Structures	3
CS 351	Algorithms	3
CS 382/383-ICR	Epics 2 Service Learning	2-3
CS 452	Parallel Algorithm Design and Programming	3
CS 485	Computer Ethics	1
MA 106*	Calculus & Anal Geometry 1	4
MA 107	Calculus & Anal Geometry 2	4

MA 162	Elementary Statistics	3
SE 361	Introduction to Software Engineering	3
SE 411	Internship Practicum	1
SE 412	Internship Reflection	2
SE 461	Managing Software Development	3
SE 462	Modernizing Legacy Software	3
SE 463	Testing and Quality Assurance	3
ONE of the following, chosen from:		3
CS 435	Computer Networks	
CS 441	Organization of Programming Languages	
CS/SE ____	Elective numbered 300 or above	3
Language	6 hours of the same language at the 200-level or higher	
	TOTAL	***68-69***

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.