## B.A. IN MUSIC PLUS A SECONDARY MAJOR IN MATHEMATICS

- 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 Mathematics 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 Mathematics advisor in addition to their Music advisor.


## Semester 1

| AM 021* | Keyboard Skills 1 | 1 | AM 022* | Keyboard Skills 2 | 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. |  |  |  |  |  |
| AM | Major Instrument or Voice | 2 | AM | Major Instrument or Voice | 2 |
| ES | Major Ensemble | 1 |  | 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 |
| MA 106* | Calculus \& Anal. Geo. 1 | 4 | MA 107 | Calculus \& Anal. Geo. 2 | 4 |
| Language Elective |  | 3 | MA 108 | First-Year Problem Solving | 1 |
|  |  | Language Elective |  |  | 3 |

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

## TOTAL Credit Hours:

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 $A B A P$ 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 $A B$ subscore.

## Semester 3

| 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-Represent for Musicians | 1 |

## Semester 4

| MT 211 | Aural Skills 3 | 1 | MT 202 | Music Theory 4 | 3 |
| :--- | :--- | :--- | :--- | :--- | :--- |
| MA 200 |  |  | MT 212 | Aural Skills 4 | 1 |
| MA 208 | Calculus \& Anal. Geo. 3 | 4 | MA 205 | Discrete Mathematics | 3 |
| TOTAL Credit Hours: | 45 | MA 310 | Linear Algebra | 3 |  |


| 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 308-SJD | Music in Global Contexts | 3 | MH 305 | Music History 1 | 2 |
| GHS | Global and Historical Studies | 3 | SW | The Social World | 3 |
| PWB | Physical Well-Being | 1 |  |  |  |
| MA | MA Elective | 3 | MA 330 | Complex Analysis | 3 |
| Programming elective (CS 142 or higher) |  | 3 | MA 412 | Algebra: Groups | 3 |
|  |  |  | MA | MA Elective | 3 |
| TOTAL Credit Hours: |  | 16 |  |  | 17 |


| Semester |  |  | Semester |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
| AM | Major Instrument or Voice | 2 | AM | Major Instrument or Voice | 2 |
| ES | Major Ensemble | 1 |  | Major Ensemble | 1 |
| MH 306 | Music History 2 | 3 | ME 430 | E-Portfolio Capstone | 0 |
|  |  |  | MH 307 | Music History 3 | 3 |
| GHS | Global and Historical Studies | 3 | NW | The Natural World | 5 |
|  |  |  | TI | Texts and Ideas | 3 |
| MA 426 | Analysis: Theory of Calculus | 3 | MA | MA Elective | 3 |
| MA | MA 413 or MA 427 | 3 |  |  |  |

TOTAL Credit Hours: 15

## 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 $\qquad$ Major Instrument or Voice 8
ES ___ Major Ensemble 6
ME $330 \quad$ Self-Representation for Musicians 1
ME 430 E-Portfolio Capstone 0
MH 305 Music History and Literature 12
MH 306 Music History and Literature 2 3
MH 307 Music History and Literature 3
MH 308-SJD Music in Global Contexts 3
MT 101 Music Theory 13
MT 111 Aural Skills $1 \quad 1$
MT 102 Music Theory 2
MT 112 Aural Skills 2 1
MT 201 Music Theory 3
MT 211 Aural Skills 3 1
MT 202 Music Theory 4
MT 212 Aural Skills $4 \quad 1$
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__
PWB $\qquad$
Texts and Ideas 3
Physical Well-Being 1
TOTAL 24

## COURSES REQUIRED FOR THE MATHEMATICS MAJOR:

MA 106* Calculus \& Anal Geometry $1 \quad 4$
MA 107 Calculus \& Anal Geometry 24
MA $108 \quad$ First-Year Problem Solving 1
MA 200 Introduction to Proofs 3
MA 205 Discrete Mathematics 3
MA 208 Calculus \& Anal Geometry 3 4
MA 310 Linear Algebra 3
MA 330 Complex Analysis 3
MA $412 \quad$ Algebra: Groups 3
MA 426 Analysis: Theory of Calculus 3
ONE of the following: 3
MA $413 \quad$ Algebra: Rings and Fields
MA 427 Analysis: Lebesgue Integration

Math Electives, chosen from MA 301,305,311-399,413-428,473 3,3,3
Programming Elective (CS 142 or higher)
3
Language $\quad 6$ hours of the same language at the 200-level or higher
TOTAL
52
*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 $A B A P$ 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 $A B$ subscore.

