

**DUAL DEGREE: B.A. IN MUSIC (from Butler University)  
PLUS B.S. IN ELECTRICAL ENGINEERING (from Purdue University)**

- Engineering contact: Jessica McCormick, 317-940-9021, jrmccorm@butler.edu
- The B.A. degree in Music requires 124 hours.
  - 66 hours must be non-music credits.
  - 40 hours must be 300 or 400-level courses.
- The Dual Degree of Music and Electrical Engineering will fulfill the following Areas of Inquiry in the Butler University Core Curriculum: Perspectives of the Creative Arts, The Natural World, The Social World, and Analytical Reasoning. In addition, the B.A. Music curriculum fulfills the Writing Across the Curriculum, Speaking Across the Curriculum, and Social Justice and Diversity requirements 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.

**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
PWB ____	Physical Well Being	1
CH 105	General Chemistry 1	5
DD 190	Elementary Engr Design	3

**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
CH 106	General Chemistry 2	5
MA 106**	Calculus & Anal. Geo. 1	4

*\*\*Math placement test required. There is the possibility that the student will need to take MA 101 (Algebra, 3 cr.) and/or MA 102 (Precalculus, 3 cr.) prior to MA 106 and MA 107.*

TOTAL Credit Hours: 20 20

**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
CS 142	Intro to Comp Sc & Prog	3
MA 107	Calculus & Anal Geo. 2	4

**Semester 4**

AM 024	Keyboard Skills 4	1
AM ____	Major Instrument or Voice	2
ES ____	Major Ensemble	1
MT 202	Music Theory 4	3
MT 212	Aural Skills 4	1
TI ____	Texts and Ideas	3
MA 208	Calculus & Anal. Geo. 3	4
PH 202	Intro to Anal. Physics 2	5

PH 201	Intro to Anal. Physics 1	5	
TOTAL Credit Hours:		20	20

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**Semester 5**

AM ____	Major Instrument or Voice	2
ES ____	Major Ensemble	1
MH 308-SJD	Music in Global Contexts	3
COM 101	Rhetoric & the Amer Dem Tra	3
DD 297	MATLAB	1
MA 215	Linear Algebra	3
PH 351-W	Analog Electronics	4
220-EC	The Economy and Society	3
TOTAL Credit Hours:		20

**Semester 6**

AM ____	Major Instrument or Voice	2
ES ____	Major Ensemble	1
ME 330-C	Self-Representation for Mus	1
MH 305	Music History 1	2
ECE 20200	Circuit Analysis 2	3
ECE 20800	Electr Devices & Design Lab	1
ECE 25500	Intro to Electr Anal & Des	3
MA 334	Differential Equations	3 SW
TCM 250	Career Planning for Engineers	1
TCM 360-W/C	Comm in Engineering Prac	2
TOTAL Credit Hours:		19

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**Semester 7**

AM ____	Major Instrument or Voice	2
ES ____	Major Ensemble	1
MH 306-W	Music History 2	3
ECE 21000	Sophomore Seminar	1
ECE 27000	Digital Logic Design	4
ECE 30100	Signals and Systems	3
ECE 31100	Electric and Magnetic Fields	3
ME 29500	Mechanics and Heat	3
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
ECE 26400	Advanced Comp Program	2
ECE 30200	Probabilistic Methods	3
ECE 36200	Microproc Sys & Interface	4
ECE 38200	Feedback Systems Analysis	3
TOTAL Credit Hours:		18

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**Semester 9**

AM ____	Major Instrument or Voice	2
ES ____	Major Ensemble	1
GHS ____	Global and Historical Studies	3
ECE 40100	Engineering Ethics	1
ECE 44000	Intro to Comm System Anal	4
ECE 48700	Senior Design 1	1
EE ____	Electrical Eng Electives	6
TOTAL Credit Hours:		18

**Semester 10**

AM ____	Major Instrument or Voice	2
ES ____	Major Ensemble	1
GHS ____	Global and Historical Studies	3
ECE 48800	Senior Design 2	2
EE ____	Electrical Eng Electives	9
ENGR 20010	Engineering Internship	1
TOTAL Credit Hours:		18

## SUMMARY

### **REQUIRED MUSIC COURSES:**

*Note: The 10-semester sequence shown above includes AM 021 and AM 022, 12 additional hours of Applied Music, and 4 additional hours of Major Ensemble, 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
<i>*AM 031 &amp; AM 032 if major instrument is piano</i>		
AM ____	Major Instrument or Voice	8
ES ____	Major Ensemble	6
ME 330-C	Self-Representation for Musicians	1
ME 430	E-Portfolio Capstone	0
MH 305	Music History and Literature 1	2
MH 306-W	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
<b>TOTAL</b>		<b>44</b> <i>(plan shows 62 music credits per the note above)</i>

### **BUTLER UNIVERSITY CORE CURRICULUM:**

FYS 101, 102	First Year Seminar	3, 3
GHS ____	Global & Historical Studies	3, 3
TI ____	Texts and Ideas	3
PWB ____	Physical Well Being/Marching Band	1
<b>TOTAL</b>		<b>16</b>

### **COURSES REQUIRED FOR THE ELECTRICAL ENGINEERING DEGREE:**

CH 105	General Chemistry 1	5
CH 106	General Chemistry 2	5
COM 101	Rhetoric & the Amer Dem Tradition	3
CS 142	Intro to Computer Sci & Prog	3
DD 190	Elementary Engineering Design	3
DD 297	MATLAB	1
ECE 20200	Circuit Analysis 2	3
ECE 20800	Electronic Devices & Design Lab	1
ECE 21000	Sophomore Seminar	1
ECE 25500	Intro to Electronic Analysis & Des	3
ECE 26400	Advanced Computer Programming	2
ECE 27000	Digital Logic Design	4
ECE 30100	Signals and Systems	3
ECE 30200	Probabilistic Methods	3
ECE 31100	Electric and Magnetic Fields	3
ECE 36200	Microprocessors Sys & Interface	4
ECE 38200	Feedback Systems Analysis	3
ECE 40100	Engineering Ethics	1

ECE 44000	Intro to Comm System Analysis	4
ECE 48700	Senior Design 1	1
ECE 48800	Senior Design 2	2
Electrical Engineering Electives		15
ENGR 20010	Engineering Internship	1
MA 106**	Calculus & Anal Geometry 1	4
MA 107**	Calculus & Anal Geometry 2	4
MA 208	Calculus & Anal Geometry 3	4
MA 215	Linear Algebra	3
MA 334	Differential Equations	3
ME 29500	Mechanics and Heat	3
PH 201	Intro to Analytical Physics 1	5
PH 202	Intro to Analytical Physics 2	5
PH 351-W	Analog Electronics	4
SW 220-EC	The Economy and Society	3
TCM 250	Career Planning for Engineers	1
TCM 360-W+C	Comm in Engineering Practice	2
	<b>TOTAL</b>	<b>115</b>

*\*\*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.*