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

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• 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 Energy 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			*Semester 2*		
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	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
PWB ____	Physical Well Being	1			
CH 105	General Chemistry 1	5	CH 106	General Chemistry 2	5
DD 190	Elementary Engr Design	3	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

Summer

GHS ____	Global and Historical Studies	3

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	MT 202	Music Theory 4	3
MT 211	Aural Skills 3	1	MT 212	Aural Skills 4	1
			TI ____	Texts and Ideas	3
CS 142	Intro to Comp Sc & Prog	3	MA 208	Calculus & Anal. Geo. 3	4
MA 107	Calculus & Anal Geo. 2	4	PH 202	Intro to Anal. Physics 2	5
PH 201	Intro to Anal. Physics 1	5			
TOTAL Credit Hours:		20			20

Summer

COM 101	Rhetoric & the Amer Dem Tra	3
GHS ____	Global and Historical Studies	3

Semester 5

AM ____	Major Instrument or Voice	2
ES ____	Major Ensemble	1
ME 330-C	Self-Representation for Mus	1
MH 308-SJD	Music in Global Contexts	3
DD 297	MATLAB	1
EEN 22000	Fund of Electro Mat & En Eng	3
EEN 22501	EEN Lab 1	1
ME 20000	Thermodynamics	3
PH 351-W	Analog Electronics	4
TOTAL Credit Hours:		19

Semester 6

AM ____	Major Instrument or Voice	2
ES ____	Major Ensemble	1
MH 305	Music History 1	2
EEN 24000	Basic Engineer Mechanics	4
EEN 25001	EEN Lab 2	1
EEN 26000	Sustainable Energy	3
EEN 26200	Engr Design, Ethics, & Entre	2
MA 334	Differential Equations	3
TCM 250	Career Planning for Engineers	1
		19

Semester 7

AM ____	Major Instrument or Voice	2
ES ____	Major Ensemble	1
MH 306-W	Music History 2	3
ECE 49500	Fund of Electrical Energy	3
EEN 31000	Fluid Mechanics	3
EEN 32501	EEN Lab 3	1
EEN 33000	Dyn Sys Modeling & Measure	3
MA 215	Linear Algebra	3
TOTAL Credit Hours:		19

Semester 8

AM ____	Major Instrument or Voice	2
ES ____	Major Ensemble	1
ME 430	E-Portfolio Capstone	0
MH 307	Music History 3	3
EEN 34500	Renewable Energy Systems	3
EEN 35001	EEN Lab 4	1
MA 359	Probability and Statistics	3
ME 27200	Mechanics of Materials	3
ME 31400	Heat and Mass Transfer	3
		19

Semester 9

AM ____	Major Instrument or Voice	2
ES ____	Major Ensemble	1
ECE 32100	Electromech Motion Devices	3
EEN 42501	EEN Lab 5	1
EEN 44500	Com Flow and Ren Kin E	3
EEN 48200	Control Systems	3
EEN ____	Energy Engineering Electives	3
TCM 360-W/C	Comm in Engineering Prac	2
____	Tech Electives	2
TOTAL Credit Hours:		20

Semester 10

AM ____	Major Instrument or Voice	2
ES ____	Major Ensemble	1
EEN 46200	Capstone Design	3
EEN ____	Energy Engineering Electives	9
ENGR 20010	Engineering Internship	1
SW 220-EC	The Economy and Society	3
		19

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
**AM 031 & AM 032 if major instrument is piano*		
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
	TOTAL	***44 (plan shows 62 music credits per the note above)***

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
	TOTAL	***16***

COURSES REQUIRED FOR THE ENERGY 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 32100	Electromechanical Motion Devices	3
ECE 49500	Fundamentals of Electrical Energy	3
EEN 22000	Fund of Electrochem Mat & En Eng	3
EEN 22501	Energy Engineering Lab 1	1
EEN 24000	Basic Engineering Mechanics	4
EEN 25001	Energy Engineering Lab 2	1
EEN 26000	Sustainable Energy	3
EEN 26200	Engr Design, Ethics, & Entrepren	2
EEN 31000	Fluid Mechanics	3
EEN 32501	Energy Engineering Lab 3	1
EEN 33000	Dynamic Sys Modeling	3
EEN 34500	Renewable Energy Systems	3

EEN 35001	Energy Engineering Lab 4	1
EEN 42501	Energy Engineering Lab 5	1
EEN 44500	Compr Flow & Renew Kinetic En	3
EEN 46200	Capstone Design	3
Energy Engineering Electives		12
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
MA 359	Probability and Statistics	3
ME 20000	Thermodynamics	3
ME 27200	Mechanics of Materials	3
ME 31400	Heat and Mass Transfer	3
ME 48200	Control Systems	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
Tech Electives		2
	TOTAL	***126***

***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.*