

Engineering Dual Degree Requirements

Motorsports Engineering & Physics

University Core Curriculum				Common Engineering			
Common Core Requirements				Mathematics			
FYS	101	First Year Seminar	Credits 3	MA	106	Calculus & Analytical Geometry 1 ⁺	Credits 4
FYS	102	First Year Seminar	3	MA	107	Calculus & Analytical Geometry 2 ⁺	4
GHS	201-209	Global and Historical Studies	3	MA	208	Calculus & Analytical Geometry 3 ⁺	4
GHS	201-209	Global and Historical Studies	3	MA	215	Linear Algebra	3
General Core Requirements				Science			
TI	Text and Ideas (TI 244-PL) ³		Credits 3	CH	105	General Chemistry 1	Credits 5
PCA	Perspectives in the Creative Arts		3	CH	106	General Chemistry 2	5
SW	The Social World		3	PH	201	Introduction to Analytical Physics 1	-
AR	Analytical Reasoning (exempt)		3	PH	202	Introduction to Analytical Physics 2	-
NW	The Natural World (exempt)		5	Engineering			
PWB	Physical Well-Being		1	DD	190	Elementary Engineering Design	Credits 3
			Core Credits 22(30)	DD	297	MATLAB	1
Additional Core Requirements				CS	142	Intro to Computer Science & Prog	3
BCR	Butler Cultural Requirement		8 events	Other			
ICR	Indianapolis Community Requirement		1 course	COM	101	Rhetoric and the American Demo	Credits 3
SAC	Speaking Across the Curriculum		1 course	TCM	250	Career Planning for Engineers	1
WAC	Writing Across the Curriculum		1 course	TCM	360	Comm in Engineering Practice (WAC/SAC)	2
Liberal Arts and Science Requirements				ENGR	200	Engineering Internship	1
Foreign Language (min 6 cr 200 level or above)			Credits 6-14				
Spanish, French, German, Chinese, Latin			Credits 28-36	Credits 42			
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Physics				Motorsports Engineering			
PH	201	Introduction to Analytical Physics 1	Credits 5	PHIL	120	Ethics ³	-
PH	202	Introduction to Analytical Physics 2	5	PH	351	Analog Electronics* (WAC)	4
PH	301	Modern Physics	3	MA	359	Probability and Statistics ²	3
PH	303	Electromagnetic Waves and Optics	3	ME	200	Thermodynamics ²	3
PH	311	Experimental Modern Physics	3	ME	270	Basic Mechanics I ¹	3
PH	321	Intermediate Classical Mechanics ¹	-	ME	272	Mechanics of Materials	3
PH	325	Thermodynamics & Statistical Physics ²	-	ME	274	Basic Mechanics II ¹	3
PH	331	Electromagnetic Theory I (WAC)**	4	ME	310	Fluid Mechanics	3
PH	421	Quantum Theory I	4	ME	325	Fluids Lab	1
PH	495	Senior Seminar	1	ME	344	Intro to Engineering Materials	3
Physics Elective (*credits used toward 4 cr req)			-	ME	482	Control Systems	3
AS	301	Modern Astronomical Techniques		MET	338	Manufacturing Processes	4
AS	311	Astrophysics I		MSTE	272	Introduction to Motorsports	3
PH	315	Mathematical Methods for Physics		MSTE	297	Modeling for Motorsports	2
PH	351	Analog Electronics I		MSTE	298	Computer Modeling & Programming	2
PH	422	Quantum Theory II		MSTE	312	Business of Motorsports	3
PH	427	General Relativity and Gravity		MSTE	317	Motorsports Practicum II	1
PH	461	Computational Physics		MSTE	320	Motorsports Design I	3
PH	480	Special Topics		MSTE	330	Data Acquisition in Motorsports I	2
			Credits 28	MSTE	331	Data Acquisition in Motorsports II	3
172 - 180 Total Credits				MSTE	340	Dynamic Systems and Signals	3
				MSTE	350	Comp Aided Design & Analysis	3
				MSTE	414	Motorsports Design II	3
				MSTE	417	Motorsports Practicum III	1
				MSTE	426	Internal Combustion Engines	3
				MSTE	472	Vehicle Dynamics	3
				MSTE	482	Motorsports Aerodynamics	3
				Tech Electives (**credits used toward 6 cr req)			3
				Credits 74			

¹⁻⁷ used as equivalents for degree requirements

⁺ also required for Physics major