Engineering Dual Degree Requirements

Electrical Engineering & Physics

University Core Curriculum				Common Engineering			
Comi	mon Co	ore Requirements	Credits	Mathe	emati	cs	Credits
FYS	101	First Year Seminar	3	MA	106	Calculus & Analytical Geometry 1+	4
FYS	102	First Year Seminar	3	MA	107	Calculus & Analytical Geometry 2+	4
GHS	201-2	09 Global and Historical Studies	3	MA	208	Calculus & Analytical Geometry 3+	4
GHS	201-2	09 Global and Historical Studies	3	MA	215	Linear Algebra	3
				MA	334	Differential Equations	3
General Core Requirements			Credits				
TI		and Ideas	3	Scienc			Credits
PCA		ectives in the Creative Arts	3	CH	105	General Chemistry 1	5
SW		ocial World (SW 220-EC) ³	3	CH		General Chemistry 2	5
AR	Analy	tical Reasoning (exempt)	3	PH	201	Introduction to Analytical Physics 1	-
NW	The Λ	atural World (exempt)	5	PH	202	Introduction to Analytical Physics 2	-
PWB	Physi	cal Well-Being	1				
		Core Credi	ts 22(30)	Engine	eering		Credits
Addi	tional (Core Requirements		DD	190	Elementary Engineering Design	3
BCR		Cultural Requirement	8 events	DD	297	MATLAB	1
ICR	India	napolis Community Requirement	1 course	CS	142	Intro to Comptuer Science & Prog	3
SAC	Speal	ring Across the Curriculum	1 course				
WAC	Writi	ng Across the Curriculum	1 course	Other	r		Credits
				COM	101	Rhetoric and the American Demo	3
Liberal Arts and Science Requirements Foreign Language (min 6 cr 200 level or above)			Credits	TCM	250	Career Planning for Engineers	1
			6-14	TCM	360	Comm in Engineering Practice (WAC/SAC)	2
	Spani	sh, French, German, Chinese, Latin		ENICE	200	Engineering Internship	1
	- 1	on, 11 on on, Comman, Commode, Latin		LINGIN	200	Engineering internsinp	1
		Credi	ts 28-36	LINGIN	200	Credits	
Phvsi						Credits	42
Physi	ics	Credi	Credits	Electri	ical En	Credits	
PH	ics 201	Credi	Credits 5	Electr i	rical En	Credits ngineering Microeconomics 3	42 Credits
PH PH	ics 201 202	Credi Introduction to Analytical Physics 1 Introduction to Analytical Physics 2	Credits 5 5	Electri ECON PH	rical En	Credits ngineering Microeconomics 3 Analog Electronics* (WAC)	42
PH PH PH	ics 201 202 301	Introduction to Analytical Physics 1 Introduction to Analytical Physics 2 Modern Physics	Credits 5 5 3	Electri ECON PH ME	rical En 201 351 295	ngineering Microeconomics ³ Analog Electronics* (WAC) Mechanics and Heat ¹	42 Credits - 4
PH PH PH PH	201 202 301 303	Introduction to Analytical Physics 1 Introduction to Analytical Physics 2 Modern Physics Electromagnetic Waves and Optics	Credits 5 5 3	Electri ECON PH ME ECE	rical En 201 351 295 202	ngineering Microeconomics ³ Analog Electronics* (WAC) Mechanics and Heat ¹ Circuit Analysis II	42 Credits - 4 - 3
PH PH PH PH PH	201 202 301 303 311	Introduction to Analytical Physics 1 Introduction to Analytical Physics 2 Modern Physics Electromagnetic Waves and Optics Expermental Modern Physics	Credits 5 5 3 3 3 3	Electri ECON PH ME ECE ECE	201 351 295 202 208	Ingineering Microeconomics ³ Analog Electronics* (WAC) Mechanics and Heat ¹ Circuit Analysis II Electronic Devices & Design Lab	42 Credits - 4 - 3 1
PH PH PH PH PH	201 202 301 303 311 321	Introduction to Analytical Physics 1 Introduction to Analytical Physics 2 Modern Physics Electromagnetic Waves and Optics Expermental Modern Physics Intermediate Classical Mechanics ¹	Credits 5 5 3 3 4	Electri ECON PH ME ECE ECE	201 351 295 202 208 210	redits ngineering Microeconomics ³ Analog Electronics* (WAC) Mechanics and Heat ¹ Circuit Analysis II Electronic Devices & Design Lab Sophomore Seminar	42 Credits - 4 - 3 1 1
PH PH PH PH PH PH	201 202 301 303 311 321 325	Introduction to Analytical Physics 1 Introduction to Analytical Physics 2 Modern Physics Electromagnetic Waves and Optics Expermental Modern Physics Intermediate Classical Mechanics Thermodynamics & Statistical Physics	Credits 5 5 3 3 3 3	Electri ECON PH ME ECE ECE ECE	201 351 295 202 208 210 255	ngineering Microeconomics Analog Electronics* (WAC) Mechanics and Heat Circuit Analysis II Electronic Devices & Design Lab Sophomore Seminar Intro to Electronics Analysis & Design	42 Credits - 4 - 3 1 1 3
PH PH PH PH PH PH PH	201 202 301 303 311 321 325 331	Introduction to Analytical Physics 1 Introduction to Analytical Physics 2 Modern Physics Electromagnetic Waves and Optics Expermental Modern Physics Intermediate Classical Mechanics ¹ Thermodynamics & Statistical Physics Electromagnetic Theory I (WAC) ²	Credits 5 5 3 3 4 4	Electri ECON PH ME ECE ECE ECE ECE	201 351 295 202 208 210 255 264	Analog Electronics* (WAC) Mechanics and Heat Circuit Analysis II Electronic Devices & Design Lab Sophomore Seminar Intro to Electronics Analysis & Design Advanced C Programming	42 Credits - 4 - 3 1 1 3 2
PH PH PH PH PH PH PH PH PH	201 202 301 303 311 321 325 331 421	Introduction to Analytical Physics 1 Introduction to Analytical Physics 2 Modern Physics Electromagnetic Waves and Optics Expermental Modern Physics Intermediate Classical Mechanics ¹ Thermodynamics & Statistical Physics Electromagnetic Theory I (WAC) ² Quantum Theory I	Credits 5 5 3 3 4 4 4	Electri ECON PH ME ECE ECE ECE ECE ECE ECE	201 351 295 202 208 210 255 264 270	Agineering Microeconomics ³ Analog Electronics* (WAC) Mechanics and Heat ¹ Circuit Analysis II Electronic Devices & Design Lab Sophomore Seminar Intro to Electronics Analysis & Design Advanced C Programming Digital Logic Design	42 Credits - 4 - 3 1 1 3 2 4
PH	201 202 301 303 311 321 325 331 421 495	Introduction to Analytical Physics 1 Introduction to Analytical Physics 2 Modern Physics Electromagnetic Waves and Optics Expermental Modern Physics Intermediate Classical Mechanics ¹ Thermodynamics & Statistical Physics Electromagnetic Theory I (WAC) ² Quantum Theory I Senior Seminar	Credits 5 5 3 3 4 4	Electri ECON PH ME ECE ECE ECE ECE ECE ECE ECE	rical En 201 351 295 202 208 210 255 264 270 301	Analog Electronics* (WAC) Mechanics and Heat Circuit Analysis II Electronic Devices & Design Lab Sophomore Seminar Intro to Electronics Analysis & Design Advanced C Programming Digital Logic Design Signals and Systems	42 Credits - 4 - 3 1 1 3 2 4 3
PH P	201 202 301 303 311 321 325 331 421 495 5ccs Elec	Introduction to Analytical Physics 1 Introduction to Analytical Physics 2 Modern Physics Electromagnetic Waves and Optics Expermental Modern Physics Intermediate Classical Mechanics ¹ Thermodynamics & Statistical Physics Electromagnetic Theory I (WAC) ² Quantum Theory I Senior Seminar tive (*credits used toward 4 cr req)	Credits 5 5 3 3 4 4 4	Electri ECON PH ME ECE ECE ECE ECE ECE ECE ECE	rical En 201 351 295 202 208 210 255 264 270 301 302	Analog Electronics* (WAC) Mechanics and Heat Circuit Analysis II Electronic Devices & Design Lab Sophomore Seminar Intro to Electronics Analysis & Design Advanced C Programming Digital Logic Design Signals and Systems Probabilistic Methods	42 Credits - 4 - 3 1 1 3 2 4 3 3
PH PH PH PH PH PH PH PH PH AS	201 202 301 303 311 321 325 331 421 495 6cs Elecc 301	Introduction to Analytical Physics 1 Introduction to Analytical Physics 2 Modern Physics Electromagnetic Waves and Optics Expermental Modern Physics Intermediate Classical Mechanics ¹ Thermodynamics & Statistical Physics Electromagnetic Theory I (WAC) ² Quantum Theory I Senior Seminar tive (*credits used toward 4 cr req) Modern Astronomical Techniques	Credits 5 5 3 3 4 4 4	Electri ECON PH ME ECE ECE ECE ECE ECE ECE ECE ECE ECE	201 351 295 202 208 210 255 264 270 301 302 311	Analog Electronics* (WAC) Mechanics and Heat Circuit Analysis II Electronic Devices & Design Lab Sophomore Seminar Intro to Electronics Analysis & Design Advanced C Programming Digital Logic Design Signals and Systems Probabilistic Methods Electric and Magnetic Fields ²	42 Credits - 4 - 3 1 1 3 2 4 3 3 3 3
PH PH PH PH PH PH PH PH AS AS	201 202 301 303 311 321 325 331 421 495 5ccs Elecc 301 311	Introduction to Analytical Physics 1 Introduction to Analytical Physics 2 Modern Physics Electromagnetic Waves and Optics Expermental Modern Physics Intermediate Classical Mechanics ¹ Thermodynamics & Statistical Physics Electromagnetic Theory I (WAC) ² Quantum Theory I Senior Seminar tive (*credits used toward 4 cr req) Modern Astronomical Techniques Astrophysics I	Credits 5 5 3 3 4 4 4	Electri ECON PH ME ECE ECE ECE ECE ECE ECE ECE ECE ECE	201 351 295 202 208 210 255 264 270 301 302 311 362	Analog Electronics* (WAC) Mechanics and Heat Circuit Analysis II Electronic Devices & Design Lab Sophomore Seminar Intro to Electronics Analysis & Design Advanced C Programming Digital Logic Design Signals and Systems Probabilistic Methods Electric and Magnetic Fields Microprocessers Systems & Interface	42 Credits 4 3 1 1 3 2 4 3 3 4
PH P	ics 201 202 301 303 311 321 325 331 421 495 ics Elect 301 311 315	Introduction to Analytical Physics 1 Introduction to Analytical Physics 2 Modern Physics Electromagnetic Waves and Optics Expermental Modern Physics Intermediate Classical Mechanics ¹ Thermodynamics & Statistical Physics Electromagnetic Theory I (WAC) ² Quantum Theory I Senior Seminar tive (*credits used toward 4 cr req) Modern Astronomical Techniques Astrophysics I Mathematical Methods for Physics	Credits 5 5 3 3 4 4 4	Electri ECON PH ME ECE ECE ECE ECE ECE ECE ECE ECE ECE	201 351 295 202 208 210 255 264 270 301 302 311 362 382	Analog Electronics* (WAC) Mechanics and Heat Circuit Analysis II Electronic Devices & Design Lab Sophomore Seminar Intro to Electronics Analysis & Design Advanced C Programming Digital Logic Design Signals and Systems Probabilistic Methods Electric and Magnetic Fields Microprocessers Systems & Interface Feedback Systems Analysis	42 Credits - 4 - 3 1 1 3 2 4 3 3 4 3
PH P	201 202 301 303 311 321 325 331 421 495 6cs Elecc 301 311 315 351	Introduction to Analytical Physics 1 Introduction to Analytical Physics 2 Modern Physics Electromagnetic Waves and Optics Expermental Modern Physics Intermediate Classical Mechanics ¹ Thermodynamics & Statistical Physics Electromagnetic Theory I (WAC) ² Quantum Theory I Senior Seminar tive (*credits used toward 4 cr req) Modern Astronomical Techniques Astrophysics I Mathematical Methods for Physics Analog Electronics I	Credits 5 5 3 3 4 4 4	Electri ECON PH ME ECE ECE ECE ECE ECE ECE ECE ECE ECE	201 351 295 202 208 210 255 264 270 301 302 311 362 382 401	Analog Electronics* (WAC) Mechanics and Heat Circuit Analysis II Electronic Devices & Design Lab Sophomore Seminar Intro to Electronics Analysis & Design Advanced C Programming Digital Logic Design Signals and Systems Probabilistic Methods Electric and Magnetic Fields Microprocessers Systems & Interface Feedback Systems Analysis Engineering Ethics	42 Credits - 4 - 3 1 1 3 2 4 3 3 4 3 1
PH	ics 201 202 301 303 311 321 325 331 421 495 ics Elecc 301 311 315 351 422	Introduction to Analytical Physics 1 Introduction to Analytical Physics 2 Modern Physics Electromagnetic Waves and Optics Expermental Modern Physics Intermediate Classical Mechanics ¹ Thermodynamics & Statistical Physics Electromagnetic Theory I (WAC) ² Quantum Theory I Senior Seminar tive (*credits used toward 4 cr req) Modern Astronomical Techniques Astrophysics I Mathematical Methods for Physics Analog Electronics I Quantum Theory II	Credits 5 5 3 3 4 4 4	Electri ECON PH ME ECE ECE ECE ECE ECE ECE ECE ECE ECE	201 351 295 202 208 210 255 264 270 301 302 311 362 382 401 440	Analog Electronics* (WAC) Mechanics and Heat¹ Circuit Analysis II Electronic Devices & Design Lab Sophomore Seminar Intro to Electronics Analysis & Design Advanced C Programming Digital Logic Design Signals and Systems Probabilistic Methods Electric and Magnetic Fields² Microprocessers Systems & Interface Feedback Systems Analysis Engineering Ethics Intro to Communication System Analysis	42 Credits 4 - 3 1 1 3 2 4 3 3 4 3 1 4
PH	201 202 301 303 311 321 325 331 421 495 6cs Elecc 301 311 315 351 422 427	Introduction to Analytical Physics 1 Introduction to Analytical Physics 2 Modern Physics Electromagnetic Waves and Optics Expermental Modern Physics Intermediate Classical Mechanics ¹ Thermodynamics & Statistical Physics Electromagnetic Theory I (WAC) ² Quantum Theory I Senior Seminar tive (*credits used toward 4 cr req) Modern Astronomical Techniques Astrophysics I Mathematical Methods for Physics Analog Electronics I Quantum Theory II General Relativity and Gravity	Credits 5 5 3 3 4 4 4	Electri ECON PH ME ECE ECE ECE ECE ECE ECE ECE ECE ECE	201 351 295 202 208 210 255 264 270 301 302 311 362 382 401 440 487	Ingineering Microeconomics Analog Electronics* (WAC) Mechanics and Heat Circuit Analysis II Electronic Devices & Design Lab Sophomore Seminar Intro to Electronics Analysis & Design Advanced C Programming Digital Logic Design Signals and Systems Probabilistic Methods Electric and Magnetic Fields Microprocessers Systems & Interface Feedback Systems Analysis Engineering Ethics Intro to Communication System Analysis Senior Design I	42 Credits 4 3 1 1 3 2 4 3 3 4 3 1 4 1
PH	201 202 301 303 311 321 325 331 421 495 5cs Elec 301 311 315 351 422 427 461	Introduction to Analytical Physics 1 Introduction to Analytical Physics 2 Modern Physics Electromagnetic Waves and Optics Expermental Modern Physics Intermediate Classical Mechanics ¹ Thermodynamics & Statistical Physics Electromagnetic Theory I (WAC) ² Quantum Theory I Senior Seminar tive (*credits used toward 4 cr req) Modern Astronomical Techniques Astrophysics I Mathematical Methods for Physics Analog Electronics I Quantum Theory II General Relativity and Gravity	Credits 5 5 3 3 4 4 4	Electri ECON PH ME ECE ECE ECE ECE ECE ECE ECE ECE ECE	201 351 295 202 208 210 255 264 270 301 302 311 362 382 401 440 487 488	Analog Electronics* (WAC) Mechanics and Heat¹ Circuit Analysis II Electronic Devices & Design Lab Sophomore Seminar Intro to Electronics Analysis & Design Advanced C Programming Digital Logic Design Signals and Systems Probabilistic Methods Electric and Magnetic Fields² Microprocessers Systems & Interface Feedback Systems Analysis Engineering Ethics Intro to Communication System Analysis Senior Design I Senior Design II	42 Credits 4 - 3 1 1 3 2 4 3 3 4 3 1 4

159 - 167 Total Credits

¹⁻³ used as equivalents for degree reqirements

⁺ also required for Physics major