Academic Checksheet

COLLEGE OF ENGINEERING
THE UNIVERSITY OF ALABAMA IN HUNTSVILLE

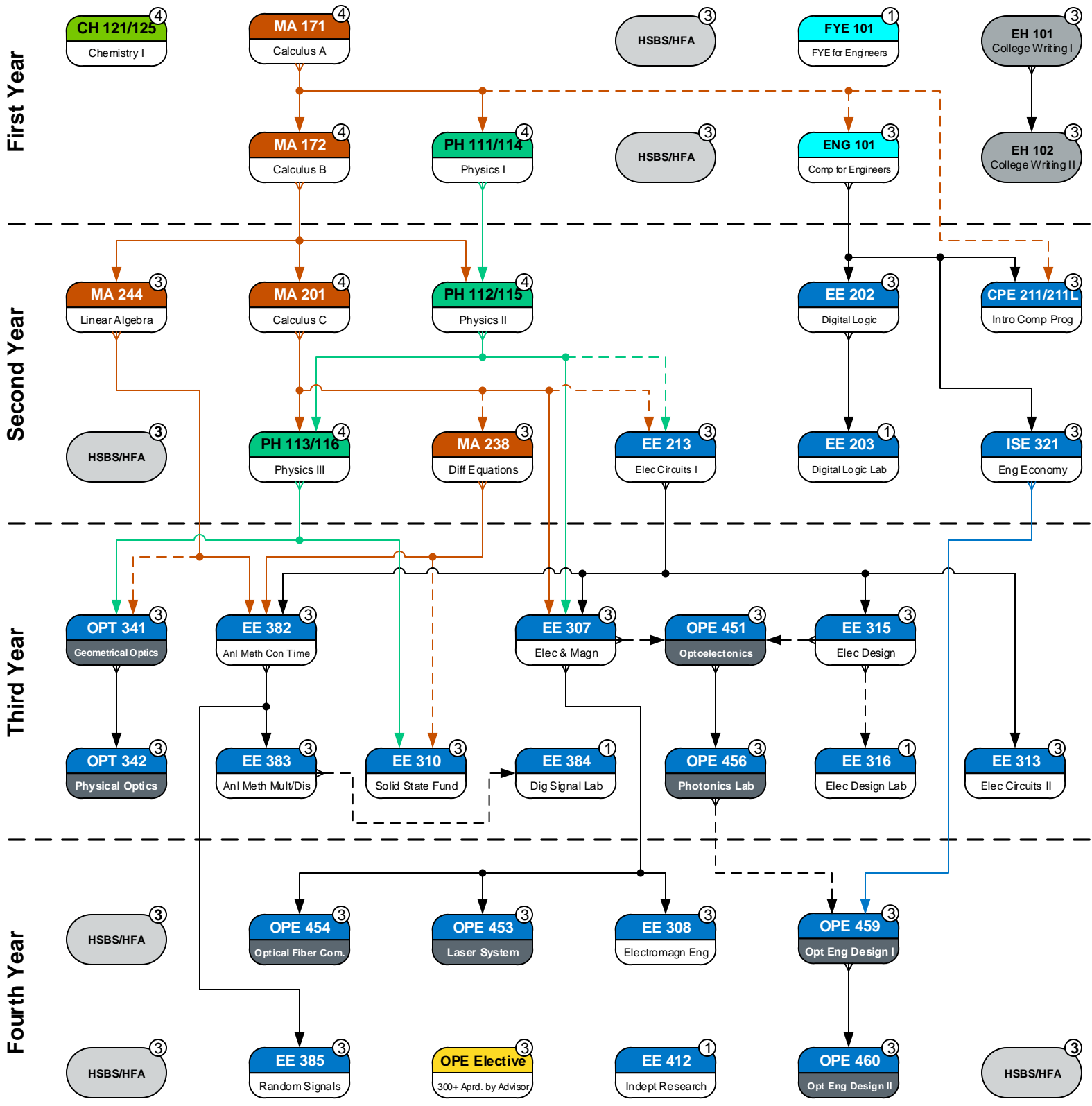# Optical Engineering
2017/2018 (129 Hours)

Student A# _____

Student Name (Last, First MI) _____

Semester, Transfer or AP	Grade	Course Number	Cr Hrs	Course Title	Prerequisites, Corequisites and/or Prerequisites with Concurrency	Offered: F=Fall S=Spr M=Sum
				English - 6 hours		
		EH 101	3	College Writing I	Placement	FSM
		EH 102	3	College Writing II	EH 101	FSM
				Mathematics - 18 hours		
		MA 171	4	Calculus A	MA 113 or Level III Placement	FSM
		MA 172	4	Calculus B	MA 171	FSM
		MA 201	4	Calculus C	MA 172	FSM
		MA 238	3	Applied Differential Equations	Prereq w/Con: MA 201	FSM
		MA 244	3	Introduction to Linear Algebra	MA 172	FSM
				Chemistry - 4 hours		
		CH 121	3	General Chemistry I	Plcmt or Prereq w/Con: MA 113	FSM
		CH 125	1	General Chemistry Lab I	Prereq w/Con: CH 121	FSM
				Physics - 12 hours		
		PH 111	3	General Physics w/Calculus I	MA 171; Coreq: 114	FSM
		PH 114	1	General Physics Lab I	Prereq w/Con: PH 111	FSM
		PH 112	3	General Physics w/Calculus II	MA 172, PH 111, PH 114; Coreq: 115	FSM
		PH 115	1	General Physics Lab II	Coreq: PH 112	FSM
		PH 113	3	General Physics w/Calculus III	MA 172, PH 112, PH 115; Coreq: 116	FSM
		PH 116	1	General Physics Lab III	Coreq: PH 113	FSM
				History, Social & Behavioral Sciences, Humaities & Fine Arts - 18 hours		
			3	History	HY 103, HY 104, HY 221, or HY 222	FSM
			3	Literature	EH 207 or EH 208	FSM
			3	Fine Art	ARH 100, ARH 101, ARH 103, TH 122, MU 100, or ARS 160	FSM
			3	Social & Behavioral Science	For more information on HSBS/HFA Requirements: http://www.uah.edu/eng/departments/undergraduate-engineering/student-forms	FSM
			3	Sequence Course (HY or EH)		FSM
			3	HSBS/HFA		FSM
				First-Year Engineering - 4 hours		
		FYE 101	1	First-Year Experience for Engineers	None	FS
		ENG 101	3	Computing for Engineers	Prereq w/Con: MA 171	SM
				Optical Engineering - 64 hours		
		CPE 211	3	Intro to Computer Programming in Engineering	ENG 101, Prereq w/Con: MA 171; Coreq: CPE 211L	FSM
		EE 202	3	Intro to Digital Logic Design	ENG 101	FSM
		EE 203	1	Digital Logic Design Lab	EE 202	FSM
		EE 213	3	Electrical Circuit Analysis I	Prereq w/Con: PH 112, MA 201	FSM
		EE 307	3	Electricity and Magnetism	PH 112, MA 201, EE 213	FSM
		EE 308	3	Electromagnetic Engineering	EE 307	FS
		EE 310	3	Solid State Fundamentals	PH 113; Prereq w/Con: MA 238	FS
		EE 313	3	Electrical Circuit Analysis II	EE 213	FSM
		EE 315	3	Introduction to Electronic Analysis and Design	EE 213	FSM
		EE 316	1	Electronic Measurements & Devices Design Lab	Prereq w/Con: EE 315	FS
		ISE 321	3	Engineering Economy	ENG 101	FSM
		OPT 341	3	Geometrical Optics	PH 113; Prereq w/Con: (PH 305 or MA 244)	F
		OPT 342	3	Physical Optics	OPT 341	S
		EE 382	3	Analytical Meth for Continuous Time Sys	EE 213, MA 238, MA 244	FSM
		EE 383	3	Analytical Meth for Mult and Discr Time Sys	EE 382	FSM
		EE 384	1	Digital Signal Processing Laboratory	CPE 381 or Prereq w/Con:EE 383	FS
		EE 385	3	Random Signals and Noise	CPE 381 or EE 382	FSM
		EE 412	1	Independent Research	Senior Standing	FSM
		OPE 451	3	Optoelectronics	Prereq w/Con: EE 307, EE 315	F
		OPE 453	3	Laser Systems	EE 307	F
		OPE 454	3	Optical Fiber Communications	EE 307, EE 382	F
		OPE 456	3	Photonics Lab	OPE 451	S
		OPE 459	3	Optical Engineering Design I	ISE 321; Prereq w/Con: OPE 456	F
		OPE 460	3	Optical Engineering Design II	OPE 459	S
				Optical Engineering Elective - 3 hours		
			3		300+ Level course approved by advisor	

** Class has required lab section

All prerequisite classes must be completed with a "C" or higher grade.
The Catalog is the final authority for all degree requirements.

Academic Flowchart

COLLEGE OF ENGINEERING
THE UNIVERSITY OF ALABAMA IN HUNTSVILLE

Optical Engineering
2017/2018 (129 Hours)

First Year

- **CH 121/125** (4) — Chemistry I
- **MA 171** (4) — Calculus A
- **HSBS/HFA** (3)
- **FYE 101** (1) — FYE for Engineers
- **EH 101** (3) — College Writing I

- **MA 172** (4) — Calculus B
- **PH 111/114** (4) — Physics I
- **HSBS/HFA** (3)
- **ENG 101** (3) — Comp for Engineers
- **EH 102** (3) — College Writing II

Second Year

- **MA 244** (3) — Linear Algebra
- **MA 201** (4) — Calculus C
- **PH 112/115** (4) — Physics II
- **EE 202** (3) — Digital Logic
- **CPE 211/211L** (3) — Intro Comp Prog

- **HSBS/HFA** (3)
- **PH 113/116** (4) — Physics III
- **MA 238** (3) — Diff Equations
- **EE 213** (3) — Elec Circuits I
- **EE 203** (1) — Digital Logic Lab
- **ISE 321** (3) — Eng Economy

Third Year

- **OPT 341** (3) — Geometrical Optics
- **EE 382** (3) — Anl Meth Con Time
- **EE 307** (3) — Elec & Magn
- **OPE 451** (3) — Optoelectronics
- **EE 315** (3) — Elec Design

- **OPT 342** (3) — Physical Optics
- **EE 383** (3) — Anl Meth Mult/Dis
- **EE 310** (3) — Solid State Fund
- **EE 384** (1) — Dig Signal Lab
- **OPE 456** (3) — Photonics Lab
- **EE 316** (1) — Elec Design Lab
- **EE 313** (3) — Elec Circuits II

Fourth Year

- **HSBS/HFA** (3)
- **OPE 454** (3) — Optical Fiber Com.
- **OPE 453** (3) — Laser System
- **EE 308** (3) — Electromagn Eng
- **OPE 459** (3) — Opt Eng Design I

- **HSBS/HFA** (3)
- **EE 385** (3) — Random Signals
- **OPE Elective** (3) — 300+ Aprd. by Advisor
- **EE 412** (1) — Indept Research
- **OPE 460** (3) — Opt Eng Design II
- **HSBS/HFA** (3)

Legend

Updated: 9/5/17

- Mathematics
- Physics
- Chemistry / Biology
- First Year Engineering
- Optical Engineering Option
- Engineering Elective
- Freshman Composition
- History, Social & Behavioral Science Humanity & Fine Art
- Offered only in semester listed
- (3) Credit Hours
- → Prerequisite
- ⇢ Prereq w/concurrency

Electrical and Computer Engineering Department: 4-Year Rolling Class Schedule, Fall 2017 - Spring 2021*

	Fall 2017	Anticipated Sections	Spring 2018	Anticipated Sections	Fall 2018	Spring 2019	Fall 2019	Spring 2020	Fall 2020	Spring 2021
CPE 211** Intro to Comp Prog in Eng	Y	2	Y	2	Y	Y	Y	Y	Y	Y
CPE 212 Fund of Software Eng	Y	2	Y	1	Y	Y	Y	Y	Y	Y
CPE 221 Computer Organization	Y	1	Y	1	Y	Y	Y	Y	Y	Y
CPE 322 Digital Hardware Design	N	0	Y	1	N	Y	N	Y	N	Y
CPE 323 Intro Embedded Comp Sys	Y	1	E	1	Y	E	Y	E	Y	E
CPE 324 Digital Hardware Des Lab	N	0	Y	4	N	Y	N	Y	N	Y
CPE 325 Embedded Comp Sys Lab	Y	8	E	6	Y	E	Y	E	Y	E
CPE 353 Software Design/Eng	Y	2	N	0	Y	N	Y	N	Y	N
CPE 381 Fund of Signals/Systems	Y	1	Y	1	E	Y	E	Y	E	Y
CPE 412 Intro to Parallel Prog	Y	1	N	0	Y	N	Y	N	Y	N
CPE 423 Hardwr/Softwr Co-Design	N	0	D	0	D	D	D	D	D	D

Course										
CPE 426 Modeling/Synthesis	N	0	D	0	D	D	D	D	D	D
CPE 427** VLSI Design I	Y	1	N	0	D	D	D	D	D	D
CPE 428** VLSI Design II	N	0	D	0	D	D	D	D	D	D
CPE 431 Intro to Comp Architecture	Y	1	N	0	Y	N	Y	N	Y	N
CPE 434 Operating Systems	N	0	Y	1	N	Y	N	Y	N	Y
CPE 435 Operating Systems Lab	N	0	Y	2	N	Y	N	Y	N	Y
CPE 436 Internals of Mod Oper Sys	N	0	N	0	N	Y	N	N	N	Y
CPE 438 Real Time/Embedded Sys	N	0	D	0	D	D	D	D	D	D
CPE 448 Intro to Comp Networks	Y	1	Y	1	E	Y	E	Y	E	Y
CPE 449** Intro to Info Assurance Eng	Y	1	N	0	Y	N	Y	N	Y	N
CPE 453 Senior Software Studio	N	0	D	0	D	D	D	D	D	D
CPE 495 Comp Eng Design I	Y	1	N	0	Y	N	Y	N	Y	N
CPE 496 Comp Eng Design II	N	0	Y	2	N	Y	N	Y	N	Y

Course										
EE 202 Intro to Digital Logic Des	Y	2	Y	1	Y	Y	Y	Y	Y	Y
EE 203 Digital Logic Design Lab	Y	3	Y	4	Y	Y	Y	Y	Y	Y
EE 213 Electrical Circuit Analysis I	Y	4	Y	4	Y	Y	Y	Y	Y	Y
EE 223 Design/Analysis using Comp	Y	2	Y	3	N	Y	Y	Y	Y	Y
EE 307 Electricity/Magnetism	Y	1	E	1	Y	E	Y	E	Y	E
EE 308 Electromagnetic Eng	Y	1	Y	1	E	Y	E	Y	E	Y
EE 310 Solid State Fundamentals	Y	1	E	1	Y	E	Y	E	Y	E
EE 315 Intro Elec Analysis/Design	Y	1	E	1	Y	E	Y	E	Y	E
EE 316 Electronic Meas/Devices Design Lab	Y	5	Y	5	E	Y	E	Y	E	Y
EE 382 Analytical Meth Contin Time Sys	Y	1	E	1	Y	E	Y	E	Y	E
EE 383 Analytical Meth Multi/Discr Time Sys	Y	1	Y	1	E	Y	E	Y	E	Y
EE 384 Digital Signal Processing Lab	Y	3	Y	3	E	Y	E	Y	E	Y
EE 385 Random Signals/Noise	Y	1	Y	1	E	Y	E	Y	E	Y

Course										
EE 386 Intro to Control/Robotic Systems	Y	1	Y	1	E	Y	E	Y	E	Y
EE 401 Digital Signal Proc Architectures	N	0	D	0	D	D	D	D	D	D
EE 411 Electric Power Systems	Y	1	D	0	D	D	D	D	D	D
EE 414 Analog and Digital Filter Design	N	0	Y	1	N	Y	N	Y	N	Y
EE 416 Electronics II	N	0	Y	1	N	Y	N	Y	N	Y
EE 423 Communication Sys/Simulation	N	0	D	0	D	D	D	D	D	D
EE 424 Intro to Data Comm Networks	Y	1	N	0	Y	N	Y	N	Y	N
EE 426 Communication Theory	N	0	Y	1	N	Y	N	Y	N	Y
EE 427** VLSI Design I *Xlisted CPE 427*	Y	1	N	0	D	D	D	D	D	D
EE 428** VLSI Design II	N	0	D	0	D	D	D	D	D	D
EE 436 Digital Electronics	Y	1	N	0	Y	N	Y	N	Y	N
EE 437 Electr Manufaturing Processes	N	0	N	0	N	N	N	N	N	N
EE 451 Optoelectronics	Y	1	N	0	Y	N	Y	N	Y	N

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Course									
EE 453 — Laser Systems	Y	1	N	0	Y	N	Y	N	Y	N
EE 454 — Optical Fiber Communications	N	0	Y	1	N	Y	N	Y	N	Y
EE 486 — Intro to Modern Control Systems	Y	1	N	0	D	D	D	D	D	D
EE 494 — EE Design Projects	Y	1	Y	1	E	Y	E	Y	E	Y
OPE 441 — Optical Systems Design	N	0	D	0	D	D	D	D	D	D
OPE 442 — Interference and Diffraction	N	0	D	0	D	D	D	D	D	D
OPE 451 — Optoelectronics	Y	1	N	0	Y	N	Y	N	Y	N
OPE 453 — Laser Systems	Y	1	N	0	Y	N	Y	N	Y	N
OPE 454 — Optical Fiber Communications	N	0	Y	1	N	Y	N	Y	N	Y
OPE 456 — Photonics Lab	N	0	Y	1	N	Y	N	Y	N	Y
OPE 459 — Optical Engineering Design I	Y	1	N	0	Y	N	Y	N	Y	N
OPE 460 — Optical Engineering Design II	N	0	Y	1	N	Y	N	Y	N	Y

Legend

Y	Course will be offered in designated term.
E	Course will likely be offered in designated term, but availability will be determined by faculty availability and budget.

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N	Course will not be offered in designated term.
D	Course may be made available given appropriate demand or interest.

*   UAH College of Engineering will make every effort to adhere to the class plan schedule, but it reserves the right to make necessary adjustments based on budget and faculty availability.

**   Course has a required lab section.