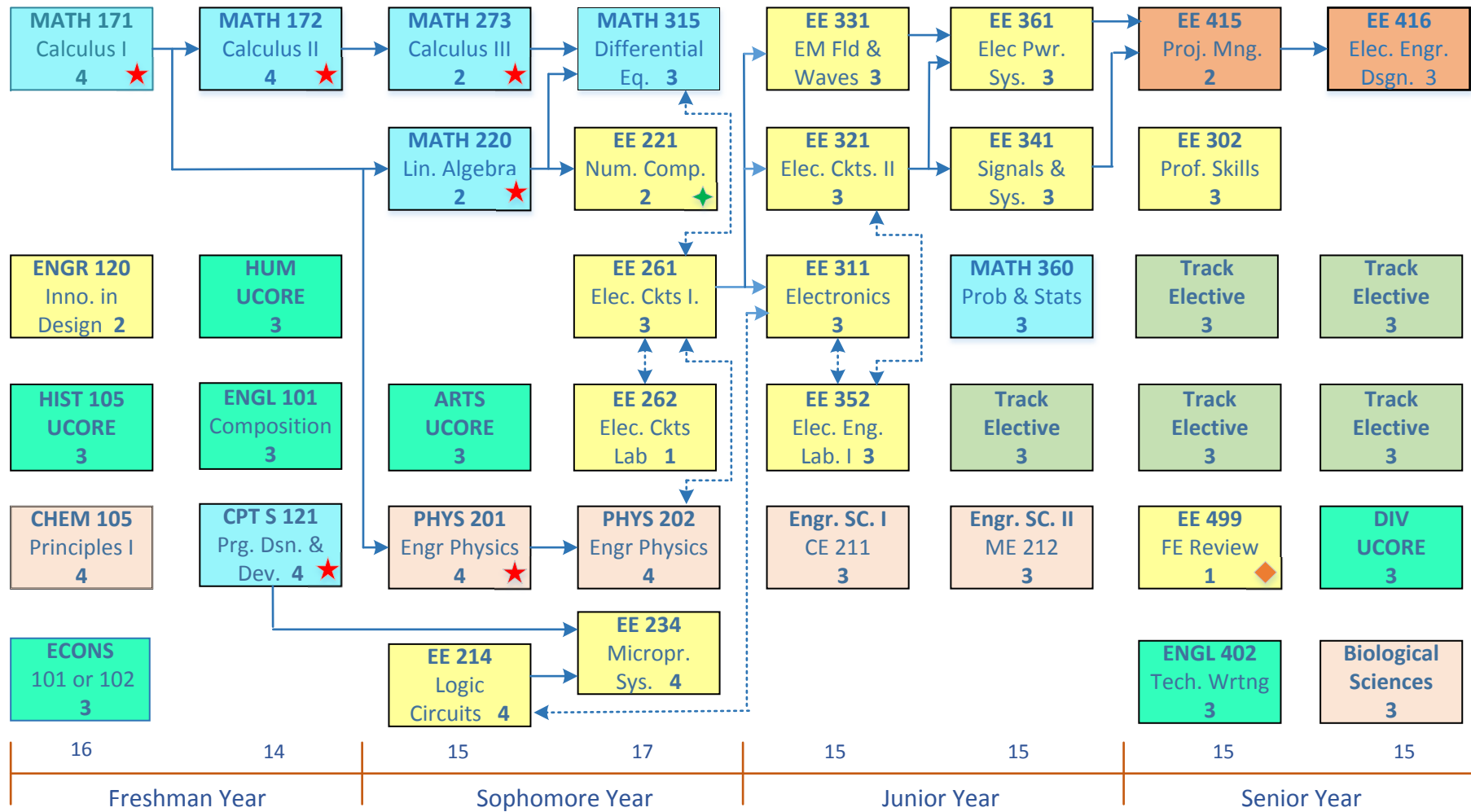


## BS EE Flow Chart 2016-2017 (WSU Tri-City)



→ Pre-requisite  
↕ Co-requisite  
★ BS EE required certification course.  
◆ CptS 122 may substitute for EE 221.  
◆ Recommended. BSEE students are strongly encouraged to take the FE exam during winter of their senior year.

**Track Options and Electives:**

Power track: EE 362, EE 489, EE 491, EE 492, EE 493  
 System track: EE351, EE431, EE432, EE464, EE489  
 General track: One from EE 351, EE362, EE 489; twelve credits of approved electives, nine of which must be 400 level EE courses.

**Transfer Students:**

- Should have credit for: CptS 121, CptS 122, CE 211, ME 212
- Should enroll in EE261, EE262 during the summer semester before their junior year followed by EE214 and EE234 during their junior year.

**UCORE**  
 [ROOT], [QUAN], [WRTG], [COMM], [SSCI], [HUM], [ARTS], [BSCI], [PSCI], [DIVR], [CAPS]

**BSEE four-year degree program at WSU Tri-Cities (\* required for certification)**

2015-09-28

**1<sup>st</sup> year**

<i>Fall</i>	<i>cr</i>	<i>Spring</i>	<i>cr</i>
Math 171* <sup>[1]</sup> [QUAN]	4 Calculus I	Math 172*	4 Calculus II
Chem 105	4 Principles of Chemistry	CptS 121*	4 Program Design
Engr 120	2 Innovation in Design	Engl 101 [WRTG]	3 College Composition
Econ 101/2 [SSCI]	3 Intro Micro/Macro	[HUM]	3
Hist 105 [ROOT]	3 Roots of Contemporary Issues		
<i>total</i> 16		<i>total</i> 14	

**2<sup>nd</sup> year**

<i>Fall</i>	<i>cr</i>	<i>Spring</i>	<i>cr</i>
Math 220*	2 Intro. Linear Algebra	Math 315	3 Differential Equations
Math 273*	2 Calculus III	Phys 202	4 Physics for Sci/Eng II
Phys 201* [PSCI]	4 Physics for Sci/Eng I	EE 221 <sup>[2]</sup>	2 Numerical Computing
EE 214	4 Design of Logic Circuits	EE 234	4 Microprocessor Systems
[ARTS]	3	EE 261	3 Electrical Circuits I
		EE 262	1 Elect Circuits Lab I
<i>total</i> 15		<i>total</i> 17	

**3<sup>rd</sup> year**

<i>Fall</i>	<i>cr</i>	<i>Spring</i>	<i>cr</i>
EE 311	3 Electronics	EE 341	3 Signals and Systems
EE 321	3 Electrical Circuits II	EE 361	3 Power Systems
EE 331	3 Electromagnetics	EE 3xx	3 Technical Elective
EE 352 [M]	3 EE Laboratory I	Math 360	3 Probability and Statistics
CE 211 [ES]	3 Statics	ME 212 [ES]	3 Dynamics
<i>total</i> 15		<i>total</i> 15	

**4<sup>th</sup> year**

<i>Fall</i>	<i>cr</i>	<i>Spring</i>	<i>cr</i>
EE 415	2 Project Management	EE 416 [CAPS][M]	3 Senior Design
EE 302	3 Professional Skills	EE 4xx	3 Technical Elective
EE 4xx	3 Technical Elective	EE 4xx	3 Technical Elective
EE 4xx	3 Technical Elective	[DIVR]	3
Engl 402 [WRTG]	3 Technical Writing	[BSCI]	3
EE 499 <sup>[3]</sup>	1 FE Review (not required)		
<i>total</i> 15		<i>total</i> 15	

122 TOTAL CREDITS

[1] Students not calculus ready should take Math 108 in Fall followed by Math 171 in Spring and Math 172 in Summer

[2] CptS 122 may substitute for EE 221, note that the Pullman BSEE program requires CptS 122 but not EE 221

[3] Recommended. BSEE students are strongly encouraged to take the FE exam during the winter of their senior year

**Transfer credit for**

CE 211  
 CptS 121\*, 122<sup>[1]</sup>  
 Chem 105  
 Econ 101 or 102  
 Engl 101  
 Math 171\*, 172\*, 273\*, 220\*, 315  
 ME 212  
 Phys 201\*, 202  
 AA degree or as many UCORE requirements as possible

**2<sup>nd</sup> year**

<i>Summer</i>	<i>cr</i>
EE 261	3 Electrical Circuits I
EE 262	1 Elect Circuits Lab I
EE 221 <sup>[1]</sup>	2 Numerical Computing
<i>total</i> 6	

**3<sup>rd</sup> year**

<i>Fall</i>	<i>cr</i>	<i>Spring</i>	<i>cr</i>
EE 214	4 Design of Logic Circuits	EE 234	4 Microprocessor Systems
EE 311	3 Electronics	EE 341	3 Signals and Systems
EE 321	3 Electrical Circuits II	EE 361	3 Power Systems
EE 331	3 Electromagnetics	EE 3xx	3 Technical Elective
EE 352 [M]	3 EE Laboratory I	Math 360	3 Probability and Statistics
<i>total</i> 16		<i>total</i> 16	

**4<sup>th</sup> year**

<i>Fall</i>	<i>cr</i>	<i>Spring</i>	<i>cr</i>
EE 415	2 Project Management	EE 416 [CAPS][M]	3 Senior Design
EE 4xx	3 Technical Elective	EE 4xx	3 Technical Elective
EE 4xx	3 Technical Elective	EE 4xx	3 Technical Elective
Engl 402 [WRTG]	3 Technical Writing	[UCORE]	3 [or other as needed]
EE 302	3 Professional Skills	[UCORE]	3 [or other as needed]
EE 499 <sup>[2]</sup>	1 FE Review (not required)		
<i>total</i> 15		<i>total</i> 15	

**122 TOTAL CREDITS (MAY VARY DEPENDING ON TRANSFER COURES)**

[1] CptS 122 may substitute for EE 221, note that the Pullman BSEE program requires CptS 122 but not EE 221

[2] Recommended. BSEE students are strongly encouraged to take the FE exam during the winter of their senior year

Power track: EE 362, EE 489, EE 491, EE 492, EE 493

Systems track: EE 351, EE 464, EE 489, EE 431, EE 432

General track: one from EE 351, EE 362, EE 489; twelve credits of approved electives, nine of which must be 400-level EE courses

**BSEE Certification Requirements at WSU Tri-Cities (all courses completed with a C or better)**

CptS 121; EE 214; Math 171, 172, 220, 273; Phys 201

**Blanket Waivers at Tri-Cities**

1. Chem 105. Five quarter credits of General Chemistry w/ Lab (Chem &161 at most community colleges) meets this requirement, although it will not transfer as Chem 105.
2. EE 221. Catalog Entry: *Numerical Computing for Engineers 2 Course Prerequisite: MATH 172 or 182 with a C or better; MATH 220 or 230 with a C or better. Waiver: Math 220 may be taken concurrently.*
3. EE 234. Catalog Entry: *Microprocessor Systems 4 (3-3) Course Prerequisite: CPT S 122 with a C or better; E E 214 with a C or better. Waiver: CptS 121 replaces CptS 122 as prerequisite.*
4. EE 261. Catalog Entry: *Electrical Circuits I 3 Course Prerequisite: MATH 315 with a C or better or concurrent enrollment; PHYSICS 202 with a C or better. Waiver: Physics 202 may be taken concurrently.*
5. EE 311. Catalog Entry: *Electronics 3 Course Prerequisite: E E 214 with a C or better; E E 261 with a C or better; concurrent enrollment in E E 352; certified major in Electrical Engineering, Computer Science, or Computer Engineering. Waiver: EE 214 may be taken concurrently.*
6. EE 492. Catalog Entry: *Renewable Energy Sources 3 (2-3) Course Prerequisite: E E 361 with a C or better; E E 362 with a C or better; STAT 360 with a C or better or STAT 443 with a C or better Waiver: EE 362 and Math/Stat 360 are not required.*

All prerequisite courses must be completed with a grade of C or better.

EE 214:

EE 221: Math 172, Math 220 or c//\*

EE 234: CptS 121\*, EE 214

EE 261: Math 315 or c//, Phys 202 or c//\*

EE 262: EE 261 or c//

All 300- and 400-level EE courses (except EE 331) require certification as a BSEE student.

EE 302:

EE 311: EE 214 or c//\*, EE 261, EE352 or c//

EE 321: EE 261

EE 331: EE 261, EE 262, Math 315, Phys 202

EE 341: EE 321, Math 360 or c//

EE 351: EE 331

EE 352: EE 311 or c//, EE 321 or c//

EE 361: EE 321, EE 331

EE 362: EE 262, EE 352, EE 361 or c//

EE 415: EE 341, EE 361

EE 416: EE 415, Engl 402 or c//

EE 431: recommended EE 331, EE 351

EE 432: EE 341, EE 351, Math 360

EE 464: EE 341

EE 489: EE 341

EE 491: EE 361

EE 492: EE 361\*

EE 493: EE 361

## Approved Technical Electives: Electrical Engineering

Astr 435	Astronomy & Astrophysics	3
CE 463	Engineering Administration	3
Chem 331	Physical Chemistry I	3
Chem 333	Physical Chemistry Lab	1
Chem 345	Organic Chemistry I	4
CptS 317	Automata and Formal Languages	3
CptS 322	Software Engineering Principles I	3
CptS 355	Programming Language Design	3
CptS 360	Systems Programming	4
CptS 422	Software Engineering Principles II	3
CptS 423	423 Software Design Project II	3
CptS 442	Computer Graphics	3
CptS 450	Design and Analysis of Algorithms	3
CptS 451	Introduction to Database Systems	3
CptS 452	Compiler Design	3
CptS 453	Graph Theory	3
CptS 455	Introduction to Computer Networks	3
CptS 460	Operating Systems & Computer Architecture	3
CptS 466	Embedded Systems	3
CptS 471	Computational Genomics	3
CptS 481	Python Software Construction	3
EconS 311	Introductory Econometrics	3
EconS 411	Introductions to Econometrics	3
EE 324	Fundamentals of Digital Systems	4
EE 334	Computer Architecture	4
EE 351	Distributed Parameter Systems	3
EE 362	Power System Laboratory	3
EE 431	RF and Microwave Circuits and Systems	3
EE 432	RF Engineering for Telecommunications	3
EE 434	ASIC and Digital Systems Design	3
EE 451	Digital Communication Systems	3
EE 455	Introduction to Computer Networks	3
EE 464	Digital Signal Processing I	3
EE 466	LSI Design	3
EE 470	Concepts in Biotechnology	3
EE 476	Analog Integrated Circuits	3
EE 477	Analog Integrated Circuits Laboratory	2
EE 486	Power Electronics	3
EE 489	Introduction to Control Systems	3
EE 491	Performance of Power Systems	3
EE 492	Renewable Energy Sources	3
EE 493	Protection of Power Systems I	3
EE 494	Protective Relay Labs	1
EE 495	Internship in Electrical Industry	3
EE 496	Intro to Semiconductor Device Theory	3
EE 499	Special Problems	V
EM 464	Project Management	3
Math 320	Elementary Modern Algebra	3
Math 325	Elementary Combinatorics	3
Math 340	Introduction to Mathematical Biology	3
Math 364	Principles of Optimization	3
Math 401	Introduction to Analysis I	3
Math 402	Introduction to Analysis II	3
Math 415	Intermediate Differential Equations	3
Math 420	Linear Algebra	3
Math 421	Algebraic Structures	3
Math 430	Statistical Methods in Engineering	3
Math 440	Applied Mathematics I	3
Math 441	Applied Mathematics II	3
Math 448	Numerical Analysis	3
Math 453	Graph Theory	3
Math 464	Linear Optimization	3
Math 466	Optimization in Networks	3
ME 401	Mechatronics	3
ME 404	Heat Transfer	3
MSE 402	Polymeric Materials	3
MSE 403	Ceramic Materials	3
Phys 303	Modern Physics I	3
Phys 304	Modern Physics II	3
Phys 320	Mechanics	3
Phys 443	Optics	3
Phys 450	Intro to Quantum Mechanics	3
Phys 463	Intro to Solid State and Materials Physics	3

Technical electives at 300-400 level must be selected from this list or electives may be at the 500-level in Math, Science, or Engineering but are subject to the prior approval of course instructor.