SONOMA STATE UNIVERSITY | Department of Engineering Science Electrical Engineering

Alternative Roadmap For Transfer Students: Napa Valley College

Approved on: 3/10/2019

EE Program @ Sonoma State University

BUILD | LEARN | INNOVATE

Learning Electrical Engineering in Small Classes and Through Student-Centered Projects

Why Electrical Engineering @ Sonoma State University?

EE Department @ SSU:

- The Engineering Department is distinguished by its state-of-the art laboratories and strong ties to the local high-tech industries. The Department highly focuses on hands-on and project-based learning and it offers exciting paid research and training opportunities to all engineering students. We offer two degrees: undergraduate EE and Master of Science degree in Computer and Engineering Science (MS-CES).

EE Degree:

- Our undergraduate electrical engineering (EE) program is best known by its small-classes, project-oriented courses, friendly and caring faculty, and its commitment to prepare its diverse students population for immediate employment after graduation.

MSCES Degree:

- The Master of Science degree in Computer and Engineering Science (MS-CES) is unique in interconnecting electrical engineering hardware and computer software. The 32-unit curriculum blends relevant academic coursework with practical engineering experience and is designed for professionals holding bachelor degrees in diverse areas of engineering and sciences who desire to further their career paths. The program is recognized as a professional Science Masters (PSM) program by the Council of Graduate Schools.

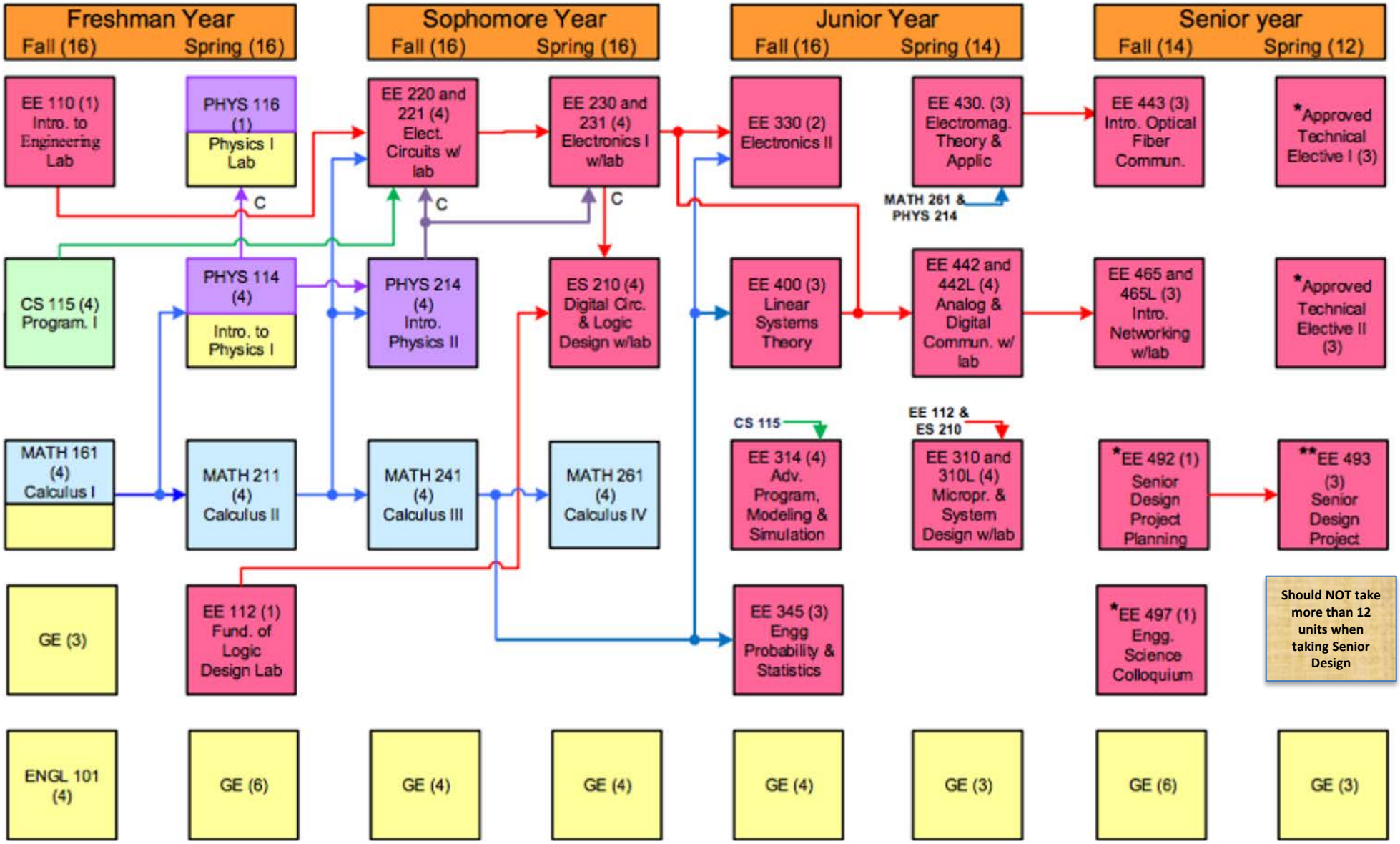
Careers:

- Graduates from our EE and MS-CES programs find high-paying career opportunities in various industries and become involved in designing wind and solar energy systems, manufacturing electronics devices, developing communications devices, designing computer circuits, building wearable electronics, developing electric cars, and much more. Many of our alums work for big names, including Keysight, Parker Hannifin, Xilinx, Broadcom, Disney, Fitbit, PG&E, Google, Tesla, and Apple.

SSU has the highest **2 yr Transfer Grad Rates compared to other CSU Campuses** (as a percentage, sorted by 2016 cohort rate)

Campus	2013	2014	2015	2016
Sonoma	51.7	55.3	60.4	62.6
San Diego	39.3	43.3	47.8	51.3
Monterey Bay	34.2	36.6	41.9	46.6
Channel Islands	42.3	37.6	41.1	44.7
San Francisco	36.5	37.2	41.1	44.7
East Bay	37	35.2	38.7	43.9
Bakersfield	36.5	42.4	36.7	41.5
Long Beach	36.6	37.6	38.5	41.1
San Bernardino	33	35.2	36.8	39.9
Chico	30.8	32.8	32.4	39
Stanislaus	32.5	35.1	36	38.7
*CSU System	30.6	32.6	35.1	38
Humboldt	26.3	28.1	31.2	37.9
Sacramento	25.6	27.1	34.6	37.4
Dominguez Hills	27.6	29.9	32.5	36.2
Fullerton	31.8	36.1	37.5	36.2
Northridge	30.7	31.2	33.6	35.4
San Luis Obispo	33.8	36.2	34	35.3
Pomona	16.8	18.1	23.9	32.3
San Jose	23.8	23.3	26.7	31.9
Fresno	22.2	25.2	27.6	29.9
Los Angeles	24.5	33.8	25.7	29.9

Electrical Engineering Roadmap at SSU



SEE THE ROADMAP: http://www.sonoma.edu/engineering/bsee/bsee_roadmap.pdf

EE Majors Can Minor in CS or MATH

- **Minor in CS**: CS 210 Introduction to Unix (1) + CS 215 Programming II (4) + TAKE TWO upper-division CS courses: (Total of 11-13 units)

CS Course- UD*	Units	Pre-Req.	Offering
CS 355	4	CS115 & CS 215	Fall/Spring
CS 370	4	CS115 & CS 215	Fall/Spring
CS 351	4	CS115 & EE 210	Fall/Spring
• https://www.cs.sonoma.edu/curriculum/programs.htm			

- **Minor in Math**: Take one more upper-division Math course – See course listing (https://www.sonoma.edu/academics/catalog)
- **Major in Math**: Take TWO more upper-division Math courses – See course listing (https://www.sonoma.edu/academics/catalog)

Other Majors Can Minor in EE

- **CS Majors Minoring in EE (Total of 9 units)**:

EE Course	Units	Pre-Req.	Offering
EE 110	1	None	Fall/Spring
EE 220/EE 221	4	EE 110/Math 211	Fall
EE 230/EE 231 **or** EE 310	4 4	EE 220/221 & PHYS 214 CS 252	Spring

- **MATH Majors Minoring in EE (Total of 14 units)**:

EE Course	Units	Pre-Req.	Offering
EE 110	1	None	Fall/Spring
EE 112	1	None	Fall/Spring
EE 220/EE 221	4	EE 110/Math 211	Fall
EE 230/EE 231 **or** EE 310	4 4	EE 220/221 & PHYS 214 EE 210	Spring
EE 210	4	EE 220/221 & PHYS 214	Spring

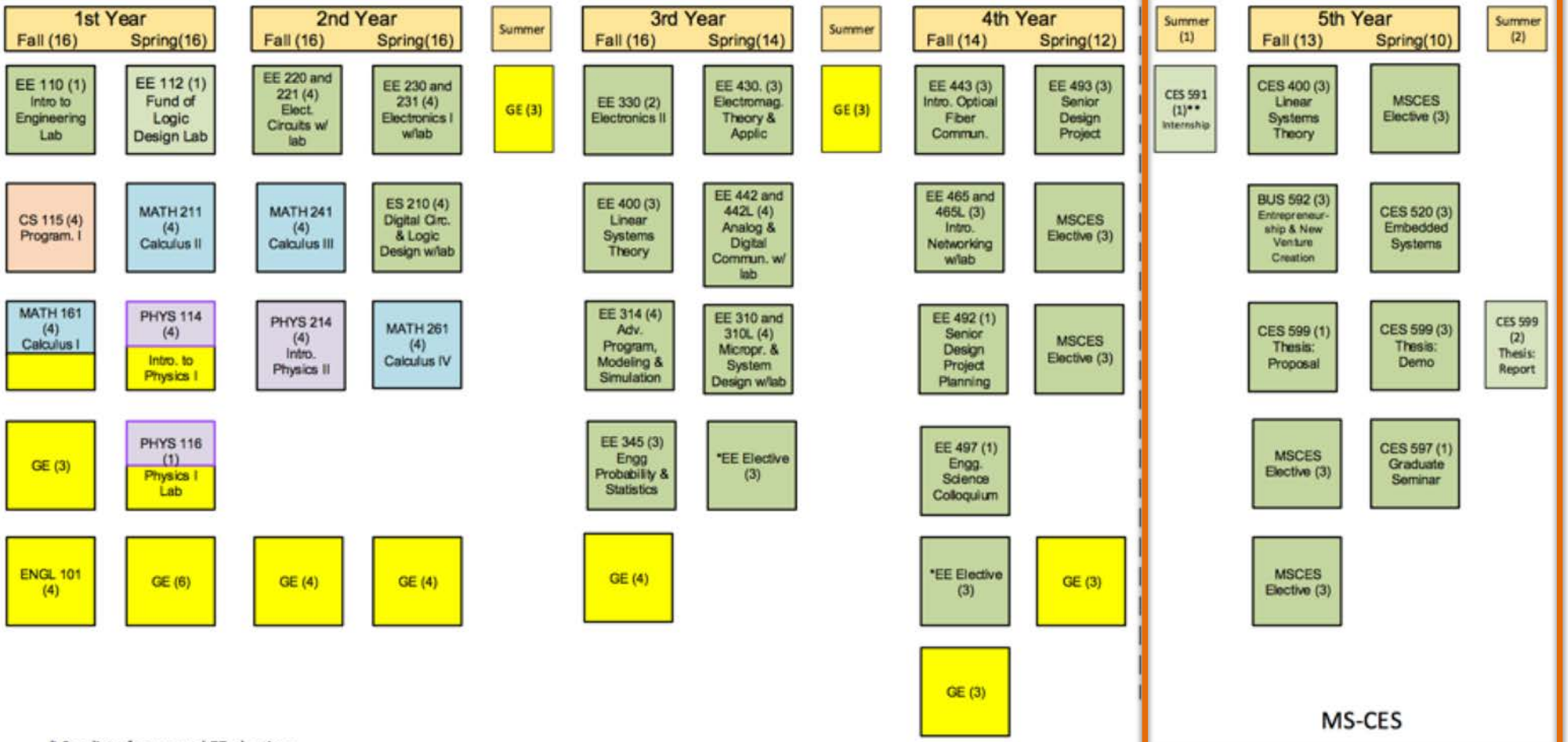
Note: All EE courses require C or better to pass.

NOTE: CS and Math student Minoring in EE have direct path to the MSCES program and can received Master of Science degree in Computer and Engineering Science (MS-CES) at Sonoma State University degree in 3 semesters. Learn more: http://web.sonoma.edu/engineering/msces/

Take Advantage of Our 4+1 & Earn Your Master's Degree in ONE YEAR!

4+1 BS-EE Plus MS-CES

(Bachelor of Science in Electrical Engineering Plus Master of Science in Computer and Engineering Science)



* See list of approved EE electives.

** Can be taken in either of Summers after the 4th year.

Course Mapping Between NVC & SSU

See www.assist.org for more information

GE Area	Class at Napa Valley	Units	Transfers to SSU	Units
	COMS 215 – Intro. to Computer Programming	3	CS 115 – Programming I	4
	Engri 110 – Intro to Engineering	3	ES 110 – Intro to Engineering	1
	--N/A--		EE 112 – Fundamentals of Digital Logic Design	1
B4	Math 120 – Calculus, First Course	5	Math 161 – Differential & Integral Calc I	4
B4	Math 121 – Calculus, Second Course	5	Math 211 – Differential & Integral Calc II	4
	Math 221 – Multivariable Calculus	5	Math 261 – Multivariable Calculus	4
	Math 222 – Diff. Eq.	3	Math 241 – Linear Algebra with app. in diff. eq.	4
	Math 220 – Intro. to Linear Algebra	3		
B1	Phys 140 – Physics for Scientists and Engineers 1	4	Phys 114 – Introduction to Physics I	4
			Phys 116 – Introductory Laboratory Experience	1
B1	Phys 240 – Physics for Scientists and Engineers 2	4	Phys 214 – Introduction to Physics II Phys 216 – Introductory Laboratory	4
	Engi 242 – Electric Circuits & Devices	4	ES 220 – Electric Circuits	3
			ES 221 – Electric Circuits Lab	1
	Engi 160 – Programming with MATLAB	3	EE 314 - Adv. Program, Modeling & Simulation	4

Plan Ahead…..

This is the sequence recommended for students planning to transfer from Napa Valley to Sonoma State University to pursue a B.S. in Electrical Engineering. Napa Valley and SSU have formed a partnership to facilitate this pathway. Napa Valley students cross-enroll in SSU classes prior to transfer and continue to pay at the JC rates (including BOG fee waivers).

Math 120 Calculus 1 (5 Units)	Math 121 Calculus 2 (5 Units)	Math 221 Multi. Calc (5 Units)	Math 222 Diff Equ (3 Units)	EE 210– Digital Circuits & Lab (4 Units) **Take at SSU**
	Phys 140 Physics 1 & lab (5 Units)	Phys 240 Elec & Mag (4 Units)	Math 220 Linear Algebra (3 Units)	ENGI 242 Circuits I (4 Units)
	ENGI 110 Intro to Engr (3 Units)	COMS 215 Programming (3 Units)	ENGI 160 Programming with Matlab (3 Units)	
	GE A1 (3 Units)	GE A2 (4 Units)	SSU EE 112 Fun Digital (1 Unit) **Take at SSU**	GE A3 (3 Units)

NOTES:
ENGI 242 articulated EE 220/221 Circuits & Dev. (4 Units)

ENGI 160 articulated EE 314 Adv. Program, Modeling & Simulation (4 units)

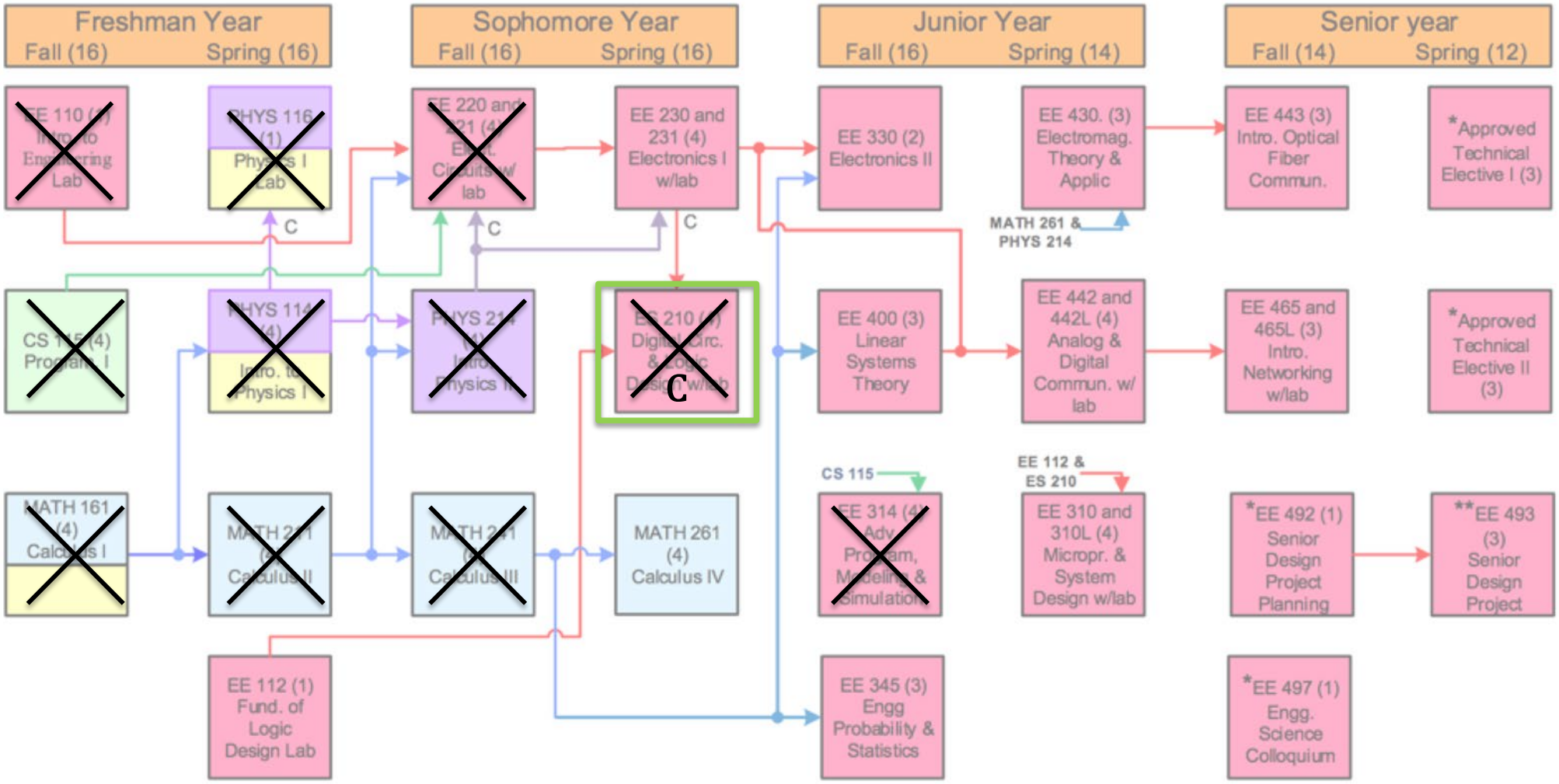
Important Notes:

- GE is lower priority than the core courses shown here. Students will need 60 transferable semester units, 30 must be GE and must include A1, A2, A3 and B4.
- Information on cross-enrollment is available at: https://web.sonoma.edu/registration/records/pdf/crossenroll.pdf
- If also interested in other universities & majors, be aware they will have different course requirements. Refer to www.assist.org.

FALL TRANSFER

We highly recommend all transfer students complete the the following courses marked by X prior to transferring to EE@SSU

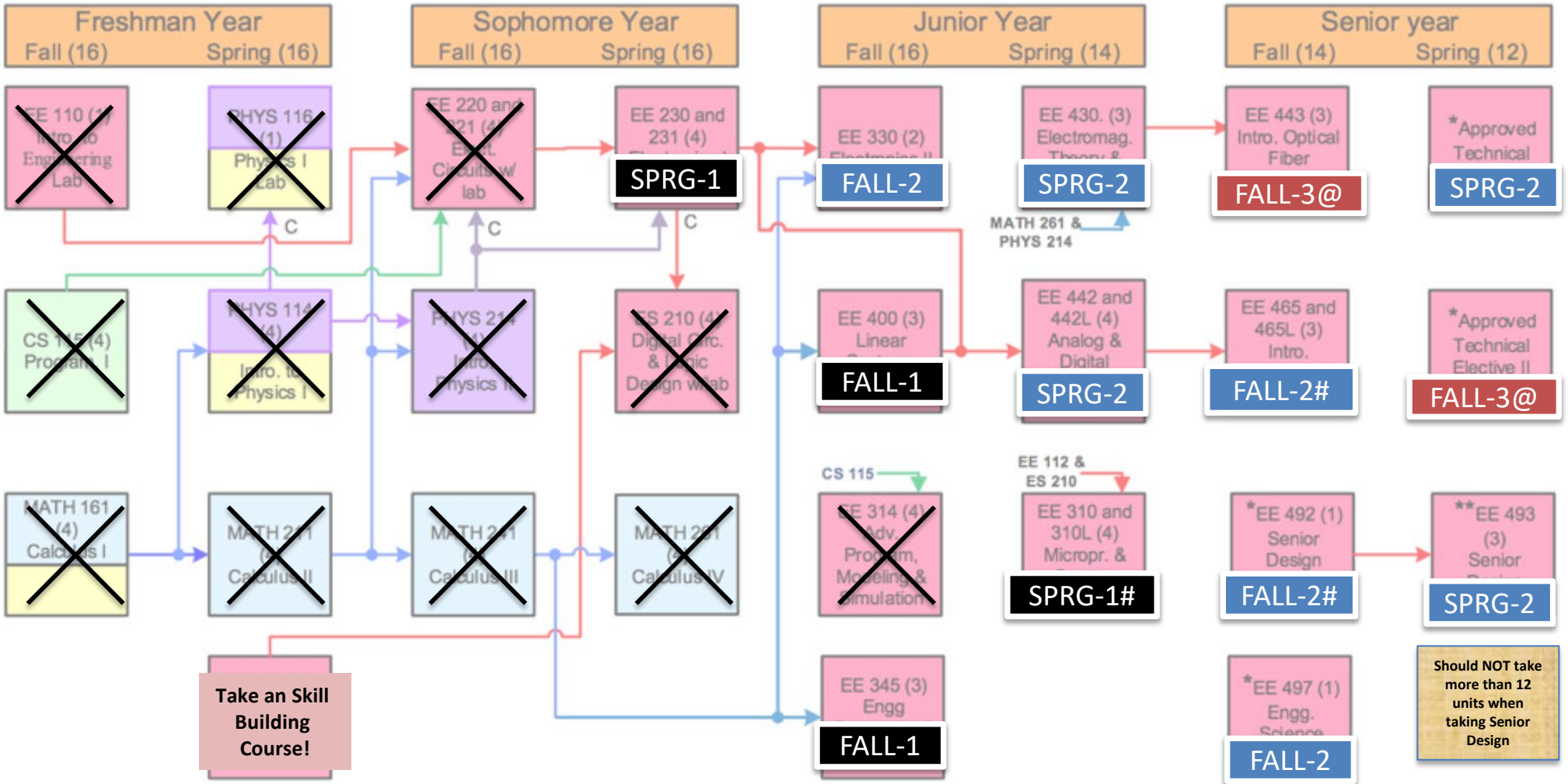
Interested students can co-enroll in ES 210 at SSU during their last semester at NVC.



SEE NEXT SLIDE ABOUT CONCURRENT ENROLLMENT

FALL-1 06 Units
SPRG-1 08 Units
FALL-2 07 Units
SPRG-2 13 Units
FALL-3 06 Units
SPRG-3

Transfer Students who DID co-enroll in ES 210 must follow the following roadmap at SSU – **Expected Gradation in 5 Semesters**



* Must not take any additional courses / # Must receive instructor permission to enroll in the course; please contact the department
\+ Consider taking a one-unit skill building course / @ Consider minoring in CS or applying for 4+1

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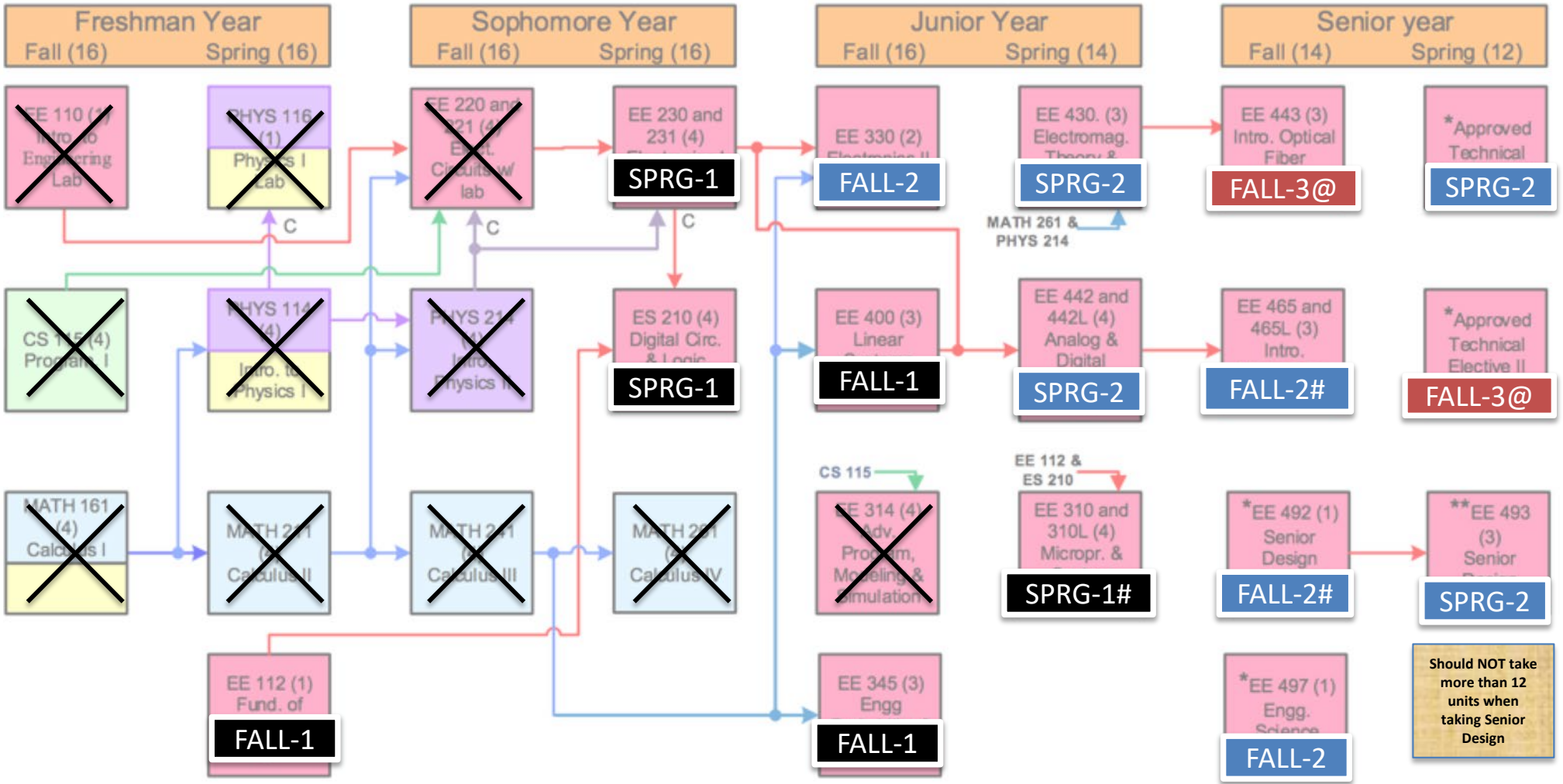
FALL-1 07 Units
SPRG-1 12 Units
FALL-2 07 Units +
SPRG-2 13 Units *
FALL-3 06 Units +
SPRG-3

Transfer Students who DID NOT co-enroll in ES 210 must follow the following roadmap at SSU – **Expected Gradation in 5 Semester**



* Must not take any additional courses / # Must receive instructor permission to enroll in the course; please contact the department
\+ Consider taking a one-unit skill building course / @ Consider minoring in CS or applying for 4+1

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Final Thoughts…

- If you are searching for an EE Program,
- If you like small classes and hands-on activities,
- If you like to use real design tools and instruments,
- If you like to build cool & meaningful projects,
- If you like to graduate timely,
- If you like to challenge yourself and let your imagination go wild……

"Electrical Engineering Program @ Sonoma"
Learn Engineering by Doing it!

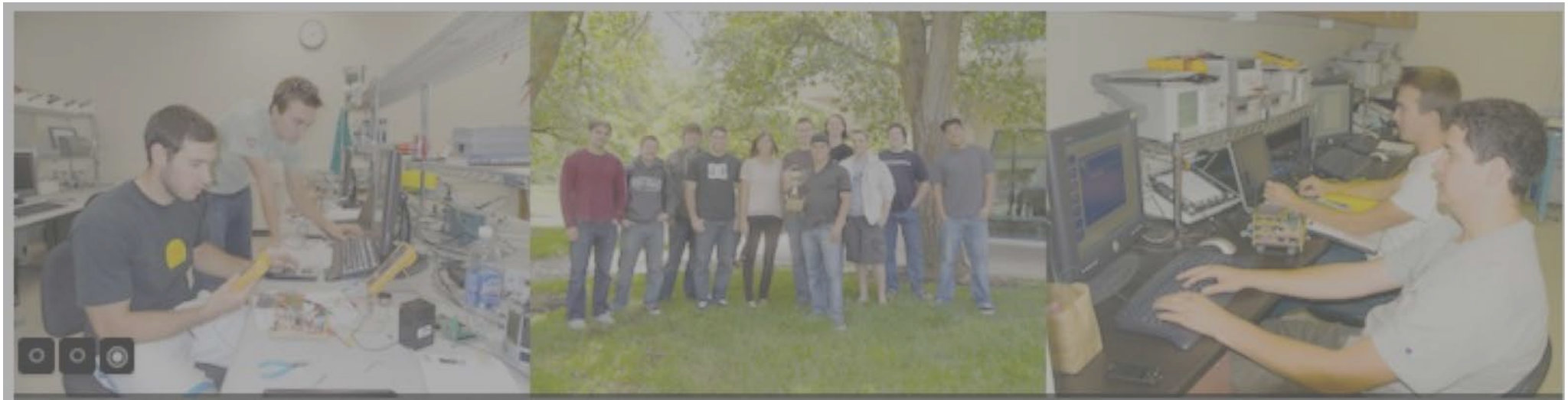
Listen to What Other Students Say About EE @ SSU

Watch the VIDEO:
https://www.youtube.com/watch?v=pXzgVs2QhZU

Join Us!
Any Questions?

Please Join Us for a Guided Lab Tour Around the Engineering Complex!

Contact:
farid.farahmand@sonoma.edu



Learning Electrical Engineering in Small Classes and Through Student-Centered Projects

For more details about Engineering at Sonoma, visit:

www.sonoma.edu/engineering

ES Home

- Engineering Science Department
- BS in Electrical Engineering
- Minor in Electrical Engineering
- MS in Computer & Engineering Science
- Courses & Schedules
- Resources
- Jobs and Internships
- Engineering Lecture Series
- Industry Advisory Board
- Student Activities
- Cadence at SSU
- Summer High School Engineering Projects

Related Links

- SST Home
- Center for Research and Education in Science and Technology (CREST)

Learning Electrical Engineering in Small Classes and Through Student-Centered Projects

Our Mission & Vision

Chairman: Dr. Fand Faranmand

Admin Coordinator: Ms. Ronnie Goodlund

Academic Programs:

- B.S. in Electrical Engineering
- Minor in Electrical Engineering
- M.S. in Computer and Engineering Science, a PSM (Professional Science Masters) Program

Upcoming Lecture

"FTTX: Key Market and Technology Trends"

Dr. Rajiv Dighe, Sr. Product Line Manager, Broadcom

Thursday, Apr 7, 2016

Skill Building Workshops

News & Accomplishments

- Fall 2016 Schedule is out!
- Alternative Elective Courses
- Science?

Engineering in Media

Jobs & Internships

Check regularly for new internship, Co-op, and permanent job opportunities.

Student Activities

The EE Program works to enhance the student experience outside the classroom by developing and promoting activities and events, supporting student clubs.