



# Program of Studies Power Systems & Sustainable Energy (With Graduate Engineering Core)

**Name:** ..... **Student SCU #** .....

First Last

**Email:** ..... **Expected Graduation Date:** .....

POS VERSION (CHECK ONE):       NEW       UPDATED       FINAL  
 B.S. Degree:                       Civil       Computer       Electrical       Mechanical       Other \_\_\_\_\_

**1. Requirements:**

Foundational Courses	Units	Grade
- ECEN 280/MECH 287 introduction to Alternative Energy Systems (2 units)	2	
- ECEN 281A Power Systems: Generation and Transmission (2 units) and ECEN 281B Power Systems: Distribution (2 units) <b>OR</b> ECEN 281E Power Systems (4 units)	4	
- ECEN 285 Introduction to the Smart Grid (2 units)	2	
Graduate Core Courses		
- EMGT 380 Introduction to Systems Engineering Management (2 units)	2	
- EMGT 255 Accounting & Cost Control for Project Managers (2 units)	2	
- ENGR 272 Energy Public Policy (2 units)	2	
- ENGR 344 Artificial Intelligence and Ethics (2 units)	2	
Applied Math Courses		
- AMTH 245 Linear Algebra I (2 units) and AMTH 246 Linear Algebra II (2 units) <b>OR</b> AMTH 247 Linear Algebra (4 units)	4	
- 4 units in AMTH, to be selected in consultation with academic advisor	4	

**2. Specialization Core: Select One Track**

Mechanical Engineering	Units	Grade
- ECEN 231 Power System Stability & Control (4 units)	4	
- ECEN 287 Energy Storage Systems (2 units)	2	
MECH 228 Energy Conversion and Conservation (2 units)	2	
- MECH 239 Solid State Power Generation and Energy Harvesting (4 units)	2	
Electrical Engineering		
- ECEN 231 Power System Stability & Control (4 units)	4	
- ECEN 287/ENGR 339 Energy Storage Systems (2 units)	2	
- ECEN 236 Linear Control Systems (2 units)	2	
- ECEN 353 DC to DC Power Conversion (2 units)	2	
Computer Engineering		
- CSEN 281 Pattern Recognition and Data Mining (4 units) <b>OR</b> CSEN 240 Machine Learning (4 units)	4	
- CSEN 243 Internet of Things (4 units)	4	
- CSEN 266 Artificial Intelligence (4 units)	4	
Civil Engineering		
- CENG 217 Sustainable Infrastructure for Developing Countries (4 units) <b>OR</b> CENG 288 Emerging Decision and Risk Analysis (4 units)	4	
- CENG 219 Designing for Sustainable Construction (4 units)	4	
- CENG 249 Civil Systems Engineering (4 units)	4	

3. **Elective Courses (to complete 46 unit requirement):** Must be approved by advisor. These elective courses may include a thesis, up to 9 units. Please note: ECEN 379 – Nanotechnology does not count toward completion of this degree.

Course #	Course Title	Units	Grade

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4. **Graduate Core Requirements:**

Must take at least 1 course from the 2 graduate core areas (minimum 4 units). NO WAIVERS OR SUBSTITUTIONS WILL BE ACCEPTED.

Graduate Core Area	Course #	Course Title	Units	Grade
Engineering and Society				
Professional Development				

5. **Transfer Credit:**

All transfer credit must be approved by your advisor. Maximum TC credit 9 quarter units or 6 semester units. BS/MS students can transfer up to 20 units from their undergraduate degree. The approved transfer units cannot be used toward a prior degree. *Only those courses completed with a B grade or higher will be eligible for transfer credit. Extension, continuing education, and online courses are not acceptable for transfer credit.*

Institution	Course	SCU Equivalent	Units	Grade	Year

**GRADUATION REQUIREMENTS**

<u>TOTALS</u>	
<b>Transfer Units</b> (1 semester unit = 1.5 quarter units) (9 quarter units maximum)	
<b>Total SCU Units</b>	
<b>Total Units</b> (46 quarter units minimum)	
<b>Current Cumulative GPA</b>	

I understand that it is my responsibility to:

- Ensure the transcripts for transfer credits are sent to the Graduate Services Office.
- Obtain my advisor’s approval and signature of this program and of any subsequent changes needed.
- Complete the program as approved with a minimum of 46 units and a 3.0 cumulative GPA with no grade below C-.

Student Signature/Date: \_\_\_\_\_ / \_\_\_\_\_

Advisor Name (print): Dr. Maryam Khanbaghi

Advisor Signature/Date \_\_\_\_\_ / \_\_\_\_\_