

# POWER ELECTRONICS - GRADUATE CERTIFICATE

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Power electronics is a key enabling technology in essentially all electronic systems ranging from wireless communication devices, portable and desktop computers, to telecommunication infrastructure systems, renewable energy systems, and industrial systems. The necessity for power electronics technology in these rapidly expanding areas creates a rising need for design engineers equipped with knowledge and skills to follow sound engineering principles and actively participate in multidisciplinary teams. The power electronics field has evolved rapidly with the advances in technology and introduction of many new application areas. As a result, it is likely that the required knowledge and skills were not in the curricula when many of today's professionals were in college. This creates a strong ongoing demand for continuing education of the workforce in the area of power electronics. The certificate program addresses the ongoing demand for skilled power electronics design engineers.

This program offers an opportunity for electrical engineers to obtain the specialized knowledge required to practice power electronics. It is intended for students and engineers having a BS degree in electrical engineering or equivalent.

## Distance Education Option

Students can take individual courses toward a master's degree or graduate certificate through distance education (online). For more information, connect with the individual graduate program directly.

## Requirements

The Power Electronics Certificate (<https://www.colorado.edu/ecee/academics/graduate-programs/professional-masters/power-electronics/>) program was initiated by the Colorado Power Electronics Center, and is operated through the Department of Electrical, Computer, and Energy Engineering (<http://www.colorado.edu/ecee/>) and through Boulder Connect (<http://www.colorado.edu/connect/>). A grade of C or better is required for each course applied toward the certificate, along with a cumulative GPA of 3.0 in certificate courses.

Power electronics certificate credit hours may be applied towards a full master's degree, provided the student is admitted to the electrical engineering graduate program as a degree-seeking student. However, credit hours may not count toward both a BS and a master's degree.

## Required Courses and Semester Credit Hours

Code	Title	Credit Hours
ECEN 5797	Introduction to Power Electronics	3
ECEN 5807	Modeling and Control of Power Electronic Systems	3
ECEN 5817	Resonant and Soft-Switching Techniques in Power Electronics	3
<b>Total Credit Hours</b>		<b>9</b>