

# WIND ENERGY TECHNICIAN CERTIFICATE

## Major Code: 3337

The Wind Energy Technician Certificate at SUNY Morrisville is designed to prepare the program participants for a career in the offshore and onshore wind industry. Students will gain expertise in renewable energy fundamentals and hands-on experience with wind turbine electrical, control, mechanical, and hydraulic systems. Students will also learn essential skills in rigging, hauling, and working safely at heights while mastering wind turbine installation, commissioning, operation, maintenance, and troubleshooting. Graduates earn 28 college credits and workforce-ready credentials, which can be applied toward Renewable Energy Technology A.A.S. or B.Tech. degrees or transferred to other accredited institutions.

Courses in the Wind Energy Technician Certificate include courses offered in the SUNY Morrisville Renewable Energy Programs as follows:

- RENG 101 – Electrical Theory for Renewable Energy (4 credits; required for A.A.S. / B.Tech.)
- RENG 102 – Renewable Energy Resources (3 credits; required for A.A.S. / B.Tech.)
- RENG 150 – Analysis Techniques for Renewable Energy (3 credits; required for A.A.S. / B.Tech.)
- AGEN 131 – Fundamentals of Hydraulics (3 credits; technical elective for A.A.S. / B.Tech.)
- RENG 221 – Introduction to Wind Energy (3 credits; required for A.A.S. / B.Tech.)
- RENG 225 – Tower Climbing and Safety (2 credits; technical elective for A.A.S. / B.Tech.)
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- RENG 245 – Electrical Systems (3 credits; new technical elective for A.A.S. / B.Tech.)

Pre-requisite and Co-requisite requirements for the courses above include:

- MATH 102, Intermediate Algebra with Trig; MATH 123, Elementary Statistics; or MATH 141, Statistics (3 credits)

and

- PHYS 107, Introductory Physics I (4 credits)

Upon successful completion of this program, students will be able to:

- Demonstrate an understanding of wind energy technologies and the wind industry in the broader context of the renewable energy industry.
- Perform installation, operation, and maintenance of electrical and control equipment/components in wind energy systems.
- Perform installation, operation, and maintenance of hydraulic and mechanical equipment/components in wind energy systems.
- Identify faults and implement troubleshooting in wind energy system conversion and control circuitry.
- Safely use rigging and hauling equipment for installation, operation, and maintenance of wind turbine systems.
- Employ safe tower-climbing and rescue skills and demonstrate comfort working at heights.

A minimum of 28 credits is required for certificate completion.

## Curriculum Requirements

Code	Title	Credits
RENG 101	Basic Elec Renewable Energy	4
RENG 102	Renewable Energy Resources	3
RENG 150	Analysis Techniques for Renewable Energy	3
RENG 221	Introduction to Wind Systems	3
RENG 225	Tower Climbing and Rescue	2
RENG 245	Electrical Systems	3
AGEN 131	Fundamentals of Hydraulics	3
MATH as advised <sup>1</sup>		3
PHYS 107	Introductory Physics I <sup>2</sup>	4
<b>Total Credits</b>		<b>28</b>

<sup>1</sup>

Ex. MATH 102, 123 or 141; this is a pre-/co-requisite for RENG 101, RENG 150 and PHYS 107.

<sup>2</sup>

PHYS 107 is a pre-/co-req for RENG 221.

## Sample Course Sequence

Course	Title	Credits
<b>Year 1</b>		
<b>Fall</b>		
RENG 101	Basic Elec Renewable Energy	4
RENG 102	Renewable Energy Resources	3
AGEN 131	Fundamentals of Hydraulics	3
Math as Advised		3
<b>Credits</b>		<b>13</b>
<b>Spring</b>		
RENG 221	Introduction to Wind Systems	3
RENG 225	Tower Climbing and Rescue	2
RENG 245	Electrical Systems	3
RENG 150	Analysis Techniques for Renewable Energy	3
PHYS 107	Introductory Physics I	4
<b>Credits</b>		<b>15</b>
<b>Total Credits</b>		<b>28</b>