An organization is only as good as its systems. That is why the most competitive organizations invest in the best systems engineers.

Leaders with the right systems engineering tools know how to optimize systems and processes in order to remain competitive. Greater attention increasingly difficult and complex global supply chains, just-in-time inventory management, and new manufacturing techniques is a must. Systems Engineers see the “whole picture” and work with stakeholders to move organizations forward. Rensselaer’s Systems Engineering Graduate Certificate prepares you to get costs and inventory under control and enhance your organization’s competitive advantage.

The Systems Engineering Certificate is comprised of:

- **ENGR 6100: Business Issues for Engineers and Scientists**
  Investigate the underlying business model in new and existing ventures, including competitive analysis, value propositions, competitive advantage, financials, strategy, and operations.

- **ISYE 6610: Systems Modeling in Decision Sciences**
  Model systems using linear programming, integer programming, multi-criteria decision-making, and decision analysis. Use computational tools to evaluate systems and make actionable decisions to improve system performance.

- **ISYE 6620: Discrete Event Simulation**
  Use graphical simulation modeling, animation, large-scale and complex systems models, random variate generation, input and output modeling, sensitivity analysis, and interactive decision-support systems to evaluate performance.

Explore Rensselaer’s Education for Working Professionals program at a 30-minute Informational Webinar or schedule a Professional Consultation at ewp.rpi.edu/contactus. You can also reach us by email at ewp@rpi.edu or by phone at 860.548.2403.
**Systems Engineering** is one of eight graduate certificates that allow you to develop in-depth expertise quickly in a mission-critical area.

Visit [ewp.rpi.edu](http://ewp.rpi.edu) for an updated listing of certificates offered and program course descriptions.

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**Business Intelligence**

Take control of the flood of data from across the enterprise by mastering data-driven decision making, business intelligence analysis, while modeling findings you and your employer can rely on.

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**Production Analytics**

Model your production accurately using data, logistics analysis and modeling decisions to differentiate true intelligence from ‘hunches’, unknowns into knowns, and make the best use of data possible.

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**Machine Learning and A.I.**

A massive competitive advantage, develop expertise in data architecture, machine learning frameworks, and deep learning in AI systems to identify problems before they appear and get closer to your customers.

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**Supply Chain and Logistics**

Empower your operation by ensuring suppliers are capable, inventory is managed, distribution and warehousing logistics are in order, and the software integrating planning and operations works harmoniously.

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**Systems Engineering**

See the ‘whole picture’ of your organization, develop skills to optimize systems and processes to bring costs and inventory under control, and enhance your role in moving the organization forward.

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**Lean Quality in Production**

Design and optimize complex systems and upgrade your credentials as a Lean Six Sigma I and Lean Six Sigma II practitioner who replaces slow, outdated processes with an approach you can count on.

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**Managing Technical Organizations**

Prepares you to add more value to your work and employer as you practice dynamic organization leadership while understanding markets, developing strategy and people, and evaluating performance.

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**Leading Change and Innovation**

Transform your approach at work as you develop purposeful and intentional leadership needed when facilitating change that is clear and precise while minimizing uncertainty and unintended consequences.

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**Graduate Certificates can be stacked to form custom Rensselaer master’s degrees.**

Rensselaer offers two master’s degrees that can be customized with your choice of certificates.

Explore Rensselaer’s Education for Working Professionals program at [ewp.rpi.edu](http://ewp.rpi.edu).

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**Master of Science in Engineering Science**

Stack any three certificates of your choice to complete a Master of Science in Engineering Science degree with a final, integrative project.

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**Systems Engineering and Technology Management**

The Systems Engineering and Technology Management degree includes two certificates of your choice and four core courses to complete the degree.

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