

---

# Universal Robots Education

---

Next-generation human robot  
collaboration starts in the classroom.





## Contents

- 01 Online training
- 02 Offline simulator
- 03 Learning environment
- 04 Hands-on lab activities
- 05 Robot kit for classrooms

Industrial robots today are integral tools for many manufacturing sectors. The future of manufacturing and its workforce lies in direct collaboration between humans and machines, known as human-robot collaboration (HRC). Universal Robots, the market leader in this fast-growing segment of collaborative robots, is making it easy to introduce advanced manufacturing to students and develop tomorrow's workforce of engineers, entrepreneurs, and skilled trades workers.

In 2008, Universal Robots pioneered the first commercially viable lightweight collaborative robots (cobots). These flexible, easy to use cobots laid the foundation for a new kind of simplified and affordable automation for companies of all industries and sizes. Our cobots relieve employees of monotonous, strenuous, and unhealthy tasks to boost productivity for businesses.

More than 50,000 of our cobots are now working side-by-side with humans around the world – a figure that highlights the importance of collaborative robotics for future work environments.

For tomorrow's industry experts, understanding the deployment, programming, and operation of robotic systems is a must.

Our many years of experience and wide-ranging knowledge of the industries utilizing robot automation make us a reliable partner to help you expand your classroom offerings with an eye to the future. Let us put our experience of over 50,000 cobots to work for your students.

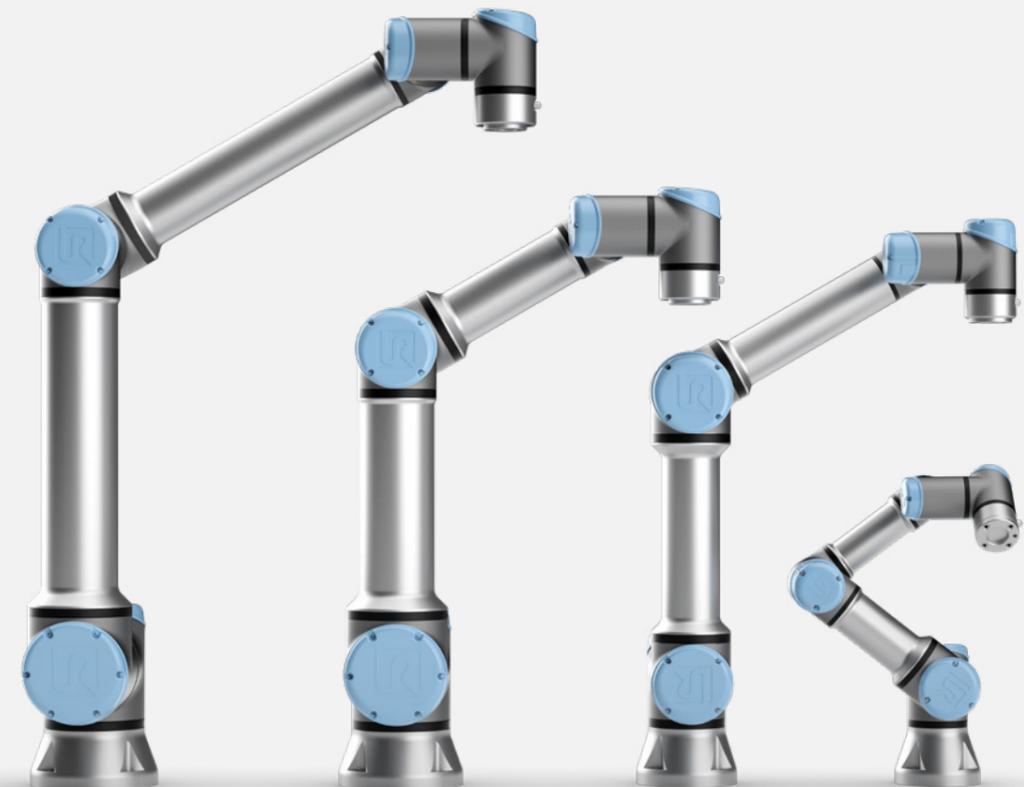
**Want to get familiar with our different robot arms, and get a glimpse of the award-winning e-learning modules that power our student curriculum and industry professional trainings? Visit the UR Academy at:**

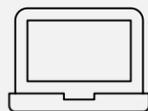
[academy.universalrobots.com/](https://academy.universalrobots.com/)

Thanks to their built-in configurable safety functions, **the UR3e, UR5e, UR10e and UR16e robot models** can be used directly next to humans without a protective enclosure after a successfully completed risk assessment.

**An intuitive user interface** enables operators to quickly set up and program the robot. As a result, our cobots are ready to run their first programs within a few hours of unboxing. Our e-Series family of robot arms offers easier, safer and faster automation than previous generations of industrial robots through the following features:

- **A force-torque sensor** integrated on the tool flange gives the e-Series robots increased precision and sensitivity.
- **17 standard safety functions** simplify collaborative implementation and risk assessment.
- **The e-Series programming interface** allows users to program from a touchscreen teach pendant and guide the robot arm to the points where it needs to work.





# Online training

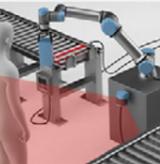
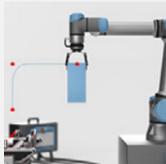
With the help of the Universal Robots Online Academy, you have the opportunity to integrate robotics education into your learning environment in an engaging and hands-on course.

We offer 14 e-learning modules that teach basic programming skills for our robots. The program covers configuring end effectors, connecting inputs and outputs, creating basic programs, and applying safety functions to a robotic process.

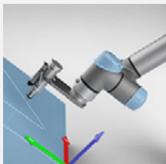
The online offering is designed to support teaching units in the classroom or lab. This way, educators and students can learn in parallel, with both real and virtual robots, or repeat what they have learned at home.

[wacademy.universal-robots.com](http://wacademy.universal-robots.com)

## e-Series Core Track

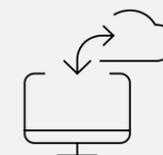
 <b>Module 1</b> The robot at a glance 7 min	 <b>Module 2</b> Preparing a task 6 min	 <b>Module 3</b> Tool setup 17 min
 <b>Module 4</b> Creating a program 12 min	 <b>Module 5</b> Interaction with external devices 11 min	 <b>Module 6</b> Controlling conveyors 10 min
 <b>Module 7</b> Safety settings 15 min	 <b>Module 8</b> Optimization 6 min	

## e-Series Pro Track

 <b>Module 9</b> Program flow 16 min	 <b>Module 10</b> Coordinate systems 13 min	 <b>Module 11</b> Force control 12 min
--	--	--

## e-Series Application Track

 <b>Module 12</b> Palletizing 15 min	 <b>Module 13</b> Screwdriving 13 min	 <b>Module 14</b> Machine loading 25 min
--	--	--



# Offline Simulator



Through the Universal Robots Offline Simulator, learners have the opportunity to write and test out programming on the real user interface of our robot.

This offline simulator is always available for download in the latest software version on our support website: [universal-robots.com/support/](http://universal-robots.com/support/) and can be run on a conventional PC within a virtual machine.

The simulator is available for the CB3 series as well as for the e-Series. It includes all robot models available for the respective software version (UR3/UR3e, UR5/UR5e, UR10/UR10e, UR16e).

The programs created in the offline simulator can then be transferred from the PC to a real robot and tested there. Select and download the offline simulator of the latest software version here:

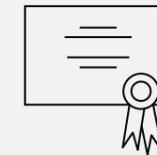
[universal-robots.com/download/offline-simulator](http://universal-robots.com/download/offline-simulator)



# Learning environment

The Universal Robots Academy Learning Environment revolves around three Cs: Content, Curriculum, and Certification. Universal Robots Academy Content consists of the robot arm and the Academy Hardware Set. Curriculum contains 10 modules with a final exam –

modules consist of instructor-led PowerPoints, hands-on lab activities, and module-specific quizzes. The Certification element assures the program's quality via a Teacher Certification Training, as well as industry-recognized student Certificates backed by Universal Robots.



## Certification for students and teachers

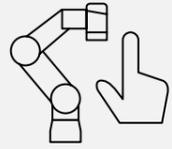
Certification for teachers is conducted regularly through a Teacher Certification Training offered by Universal Robots. This four-day long course consists of our Industry Core Training (two days) and Certification Training (two days). The training presents to teachers the Educational Curriculum they will deliver to students and introduces the Universal Robots Training Methodology. The Universal Robots Training Methodology is the foundation for all material developed and delivered by Universal Robots Academy and will prepare teachers to guide their students through the course.

The final exam for students offered through the Universal Robots Academy Learning Environment assesses all content related to our robots over the course of the student class. This exam is prepared by Universal Robots Academy for students, so that upon successful completion of the coursework and exam students will receive an industry-recognized Certificate from Universal Robots.



## Teaching materials

Teaching materials are accessible from the Learning Environment. These materials include a PowerPoint for each module to enable instructor-led learning for students, a guide on the UR Training Methodology, a guide on the UR Learning Environment, a complete list of programs from the PowerPoint and Labs, and additional complementary material.



## Hands-on lab activities

Lab Activities offer students focused, hands-on learning and experimentation based around common cobot applications in industrial processes. Each module's lab activities build off of the previous modules to build a cohesive learning experience.

## Module quizzes

Each module has a focused quiz at the end and utilizes a question bank with randomized quiz questions.



## Robot kit for classrooms

Hands-on learning helps students gain confidence with collaborative robot technology and ensures the greatest educational outcomes. The curriculum provided by Universal Robots is based on our Industry Training Centers and we have put together a hardware package for educators to facilitate this robot curriculum. It contains:

- A conveyor belt with corresponding sensors
- 3D printed training plates for simulating different applications (e.g. palletizing and gluing)
- An I/O simulator for digital inputs, outputs, and safety inputs

Our hardware package makes it possible to realistically reproduce smaller common robot deployments in your learning environment. This allows schools to teach technical knowledge about collaborative robotics with practical and contextualized learning outcomes.



---

**Interested in integrating next-generation robotics into your class or lab?**  
**Let's get your students started with advanced manufacturing through cobots!**

---

## Contact us

---

Universal Robots USA Inc  
5430 Data Court Suite 300  
Ann Arbor, MI 48201  
1-844-GO-COBOT

[academy.na@universal-robots.com](mailto:academy.na@universal-robots.com)



Facebook



LinkedIn



Twitter



YouTube



Instagram

