



COURSE LIST

WHY MATHWORKS?

COURSE FORMATS

FOCUS AREAS

- Data Science
- Programming and Application Development
- Image Processing and Computer Vision
- Signal Processing and Communications
- Modeling and Simulation
- Control and Algorithm Design
- Physical Modeling
- HDL Code Generation
- C Code Generation

REGISTRATION

# DESTINATION: KNOWLEDGE



TRAINING SERVICES





# ■ Course List

Partner with MathWorks on your learning journey. Find everything you need to get started, including course descriptions and additional information, at [mathworks.com/get-training](https://mathworks.com/get-training).

## COURSE LIST

## WHY MATHWORKS?

## COURSE FORMATS

## FOCUS AREAS

- Data Science
- Programming and Application Development
- Image Processing and Computer Vision
- Signal Processing and Communications
- Modeling and Simulation
- Control and Algorithm Design
- Physical Modeling
- HDL Code Generation
- C Code Generation

## REGISTRATION

### MATLAB®

#### FUNDAMENTAL

- MATLAB Fundamentals
- MATLAB Fundamentals for Automotive Applications
- MATLAB Fundamentals for Aerospace Applications
- MATLAB for Financial Applications

#### INTERMEDIATE

- Wireless Communications Systems Design with MATLAB and USRP® Software-Defined Radios
- Machine Learning with MATLAB ▲TRENDING
- Deep Learning with MATLAB ▲TRENDING
- MATLAB for Data Processing and Visualization
- MATLAB Programming Techniques
- Statistical Methods in MATLAB
- Optimization Techniques in MATLAB
- Image Processing with MATLAB
- Building Interactive Applications in MATLAB
- Processing Big Data with MATLAB
- Accelerating and Parallelizing MATLAB Code
- Signal Preprocessing and Feature Extraction for Data Analytics with MATLAB ▲TRENDING
- Signal Processing with MATLAB
- Predictive Maintenance with MATLAB NEW
- Computer Vision with MATLAB
- Automated Driving with MATLAB ▲TRENDING
- Object-Oriented Programming with MATLAB

#### ADVANCED

- MATLAB to C with MATLAB Coder™
- Designing LTE and LTE Advanced Physical Layer Systems with MATLAB

### SIMULINK®

#### FUNDAMENTAL

- Simulink for System and Algorithm Modeling
- Simulink for Automotive System Design
- Signal Processing with Simulink
- Simulink for Aerospace System Design

#### INTERMEDIATE

- Communication Systems Modeling with Simulink
- Control System Design with MATLAB and Simulink
- Integrating Code with Simulink
- Modeling Physical Systems with Simscape™
- Modeling Driveline Systems with Simscape
- Modeling Fluid Systems with Simscape
- Modeling Electrical Power Systems with Simscape
- Modeling Multibody Mechanical Systems with Simscape
- Power Electronics Control Design with Simulink and Simscape NEW

#### ADVANCED

- Programming Xilinx® Zynq® SoCs with MATLAB and Simulink
- Embedded Linux® and System Integration with Zynq
- Simulation-Based Testing with Simulink
- Design Verification with Simulink NEW
- Simulink Model Management and Architecture ▲TRENDING
- Generating HDL Code from Simulink ▲TRENDING
- DSP for FPGAs

### STATEFLOW®

#### FUNDAMENTAL

- Stateflow for Logic-Driven System Modeling
- Stateflow for Automotive Applications

### CODE GENERATION

#### FUNDAMENTAL

- Testing Generated Code in Simulink

#### ADVANCED

- Generating HDL Code from Simulink ▲TRENDING
- Programming Xilinx Zynq SoCs with MATLAB and Simulink
- Embedded Linux and System Integration with Zynq
- Embedded Coder® for Production Code Generation
- MATLAB to C with MATLAB Coder
- Code Generation for AUTOSAR Software Components ▲TRENDING
- Software-Defined Radio with Zynq Using Simulink
- Real-Time Testing with Simulink Real-Time™ and Speedgoat Hardware

### POLYSPACE® PRODUCTS

#### ADVANCED

- Polyspace for C/C++ Code Verification

- Data Science
- Programming and Application Development
- Image Processing and Computer Vision
- Signal Processing and Communications
- Modeling and Simulation
- Control and Algorithm Design
- Physical Modeling
- HDL Code Generation
- C Code Generation

# ■ Why Invest in MathWorks Training?

We have the exclusive product knowledge to give you expert instruction. Our training employs industry-accepted best practices for adult learning and technical instruction. It covers the basics of working with MATLAB and Simulink as well as intermediate and advanced techniques that address complex workflows and niche applications.

Investing in proven training solutions from MathWorks produces numerous benefits for both the short and long term.

## Improve efficiency and productivity.

The cost of engineers learning on their own can quickly exceed the cost of a class. MathWorks has done the research and built a curriculum that enables users to leverage our tools and hit the ground running.

## Learn from MATLAB and Simulink experts.

MathWorks training instructors are engineers themselves, with advanced degrees and years of industry experience. In addition, they hold instructor/facilitator certification.

## Access the most up-to-date courses.

Course developers use new products months before they are released and are always current with the latest trends and software features, ensuring you stay competitive.

## Get hands-on, personalized training and instruction.

Instructors use a variety of techniques—including a “presentation, practice, test” approach to learning—to reinforce concepts and build proficiency.

## Achieve measurable results.

According to post-training surveys, teams who receive 40 hours of training meet project objectives three times as often as those who receive 30 hours or less. This increase in training time raises the likelihood of meeting objectives by 90%.



98%

of attendees rated our instructors as subject matter experts



95%

of attendees said coursework had real-world application to their jobs



96%

of attendees surveyed would recommend the course to a friend or colleague



144%

average increase in competence with MATLAB after training



60

average number of development hours to create one hour of training



104%

average increase in productivity with MATLAB after training

Data Science

Programming and  
Application Development

Image Processing and  
Computer Vision

Signal Processing  
and Communications

Modeling and Simulation

Control and Algorithm Design

Physical Modeling

HDL Code Generation

C Code Generation

## ■ Try a Course Now for Free

Introductory courses such as MATLAB Onramp and Simulink Onramp get you up to speed quickly and easily. Each highly interactive tutorial contains a set of learning objectives designed to help participants learn the essentials and master necessary skills right within the product. Our hands-on approach enables you to immediately practice, apply, and evaluate your knowledge.

“The quality of the training from MathWorks was truly beyond my expectations. The training materials, examples, and exercises were prepared to ensure quick ramp-up in learning the tool. I feel more confident taking on greater challenges in my job, and my skills and job marketability have been boosted as a result.”

— ARASH SOLEIMANI,  
BOMBARDIER TRANSPORTATION

## ■ Have MathWorks Come to You



Available worldwide, onsite training is ideal for larger groups or those who need customized instruction. We train thousands of customers every year, and cover a range of industrial applications. By tapping into a vast content library as well as developing material from scratch, instructors can tailor the curriculum with company- or industry-specific examples relevant to your team’s specific goals and address challenges familiar to attendees.

MathWorks training services allow organizations to address their unique training needs using material that has been refined from our years of experience. As a result of this partnership, customers get more out of their learning investment and maximize their productivity.



Data Science

Programming and  
Application DevelopmentImage Processing and  
Computer VisionSignal Processing  
and Communications

Modeling and Simulation

Control and Algorithm Design

Physical Modeling

HDL Code Generation

C Code Generation

## ■ Find a Format to Suit Your Needs

Advance your MATLAB and Simulink skills how, when, and where it works best for you. Course formats accommodate a variety of learning styles and organizational requirements. If you don't see what you're looking for, MathWorks training staff are available to consult with you and develop a customized plan.



### INSTRUCTOR-LED CLASSROOM

Courses are offered at MathWorks facilities, your location, and public sites around the world.



### INSTRUCTOR-LED ONLINE

Live, online courses are led in real time by MathWorks instructors and contain the same course content and materials used in the classroom setting.



### SELF-PACED

Learn MATLAB and Simulink online with our interactive courses containing demonstrations, exercises, and quizzes. The flexible format suits busy schedules, and users have around-the-clock access for six months.

"The training we received onsite was customized to our needs, which accelerated our ramp-up. We learned how to make our code more robust, maintainable, and efficient."

— MARCUS VELTUM, HELABA INVEST



## COURSE LIST

## WHY MATHWORKS?

## COURSE FORMATS

## FOCUS AREAS

Data Science

Programming and  
Application Development

Image Processing and  
Computer Vision

Signal Processing  
and Communications

Modeling and Simulation

Control and Algorithm Design

Physical Modeling

HDL Code Generation

C Code Generation

## REGISTRATION



# Get Started on the Right Path

Learning paths aid in building a proper foundation with MATLAB and Simulink and enable you to get the most out of your products. The following pages provide a suggested sequence of courses based on your particular area of interest. For information on prerequisites and other focus areas not listed here, visit [mathworks.com/get-training](https://mathworks.com/get-training).

FOCUS AREAS

- Data Science
  - Programming and Application Development
  - Image Processing and Computer Vision
  - Signal Processing and Communications
  - Modeling and Simulation
  - Control and Algorithm Design
  - Physical Modeling
  - HDL Code Generation
  - C Code Generation

**FOCUS AREA** | Not all courses are applicable to everyone. Please choose the courses that best meet your individual needs.

# Data Science

FUNDAMENTAL

MATLAB Fundamentals



INTERMEDIATE

MATLAB for Data Processing and Visualization



Machine Learning with MATLAB



Deep Learning with MATLAB



Statistical Methods in MATLAB

Signal Processing and Feature Extraction for Data Analytics with MATLAB

Predictive Maintenance with MATLAB

Accelerating and Parallelizing MATLAB Code

Optimization Techniques in MATLAB

Processing Big Data with MATLAB



= Also available in an online, self-paced format



= Part of the MathWorks certification program



COURSE LIST

WHY MATHWORKS?

COURSE FORMATS

FOCUS AREAS

- Data Science
- Programming and Application Development
- Image Processing and Computer Vision
- Signal Processing and Communications
- Modeling and Simulation
- Control and Algorithm Design
- Physical Modeling
- HDL Code Generation
- C Code Generation

REGISTRATION

**FOCUS AREA** | Not all courses are applicable to everyone. Please choose the courses that best meet your individual needs.

# Programming and Application Development

FUNDAMENTAL

MATLAB Fundamentals



INTERMEDIATE

MATLAB Programming Techniques



Accelerating and Parallelizing MATLAB Code

Optimization Techniques in MATLAB

Building Interactive Applications in MATLAB



Object-Oriented Programming with MATLAB





FOCUS AREAS

- Data Science
- Programming and Application Development
- Image Processing and Computer Vision
- Signal Processing and Communications
- Modeling and Simulation
- Control and Algorithm Design
- Physical Modeling
- HDL Code Generation
- C Code Generation

**FOCUS AREA** | Not all courses are applicable to everyone. Please choose the courses that best meet your individual needs.

# Image Processing and Computer Vision

FUNDAMENTAL

MATLAB Fundamentals



INTERMEDIATE

Image Processing with MATLAB



Computer Vision with MATLAB

Automated Driving with MATLAB



= Also available in an online, self-paced format



= Part of the MathWorks certification program

**FOCUS AREA** | Not all courses are applicable to everyone. Please choose the courses that best meet your individual needs.

# Signal Processing and Communications

## FUNDAMENTAL

MATLAB Fundamentals



Signal Processing with Simulink

## INTERMEDIATE

Signal Processing with MATLAB

Signal Processing and Feature Extraction for Data Analytics with MATLAB

Wireless Communications Systems Design with MATLAB and USRP® Software-Defined Radios

Communications Systems Modeling with Simulink

## ADVANCED

Designing LTE and LTE Advanced Physical Layer Systems with MATLAB

COURSE LIST

WHY MATHWORKS?

COURSE FORMATS

### FOCUS AREAS

- Data Science
- Programming and Application Development
- Image Processing and Computer Vision
- Signal Processing and Communications
- Modeling and Simulation
- Control and Algorithm Design
- Physical Modeling
- HDL Code Generation
- C Code Generation

REGISTRATION



FOCUS AREAS

- Data Science
- Programming and Application Development
- Image Processing and Computer Vision
- Signal Processing and Communications
- Modeling and Simulation
- Control and Algorithm Design
- Physical Modeling
- HDL Code Generation
- C Code Generation

**FOCUS AREA** | Not all courses are applicable to everyone. Please choose the courses that best meet your individual needs.

# Modeling and Simulation

FUNDAMENTAL

MATLAB Fundamentals



Simulink for System and Algorithm Modeling

INTERMEDIATE

Integrating Code with Simulink

ADVANCED

Simulink Model Management and Architecture

Simulation-Based Testing with Simulink

Design Verification with Simulink

Real-Time Testing with Simulink Real-Time and Speedgoat Hardware



= Also available in an online, self-paced format



= Part of the MathWorks certification program



COURSE LIST

WHY MATHWORKS?

COURSE FORMATS

FOCUS AREAS

- Data Science
- Programming and Application Development
- Image Processing and Computer Vision
- Signal Processing and Communications
- Modeling and Simulation
- Control and Algorithm Design
- Physical Modeling
- HDL Code Generation
- C Code Generation

REGISTRATION

**FOCUS AREA** | Not all courses are applicable to everyone. Please choose the courses that best meet your individual needs.

# Control and Algorithm Design

## FUNDAMENTAL

MATLAB Fundamentals



Simulink for System and Algorithm Modeling

Stateflow for Logic-Driven System Modeling

## INTERMEDIATE

Control System Design with MATLAB and Simulink



= Also available in an online, self-paced format



= Part of the MathWorks certification program





COURSE LIST

WHY MATHWORKS?

COURSE FORMATS

FOCUS AREAS

- Data Science
- Programming and Application Development
- Image Processing and Computer Vision
- Signal Processing and Communications
- Modeling and Simulation
- Control and Algorithm Design
- Physical Modeling
- HDL Code Generation
- C Code Generation

REGISTRATION

**FOCUS AREA** | Not all courses are applicable to everyone. Please choose the courses that best meet your individual needs.

# Physical Modeling

FUNDAMENTAL

MATLAB Fundamentals



Simulink for System and Algorithm Modeling

INTERMEDIATE

Modeling Physical Systems with Simscape

Modeling Multibody Mechanical Systems with Simscape

Modeling Fluid Systems with Simscape

Power Electronics Control Design with Simulink and Simscape

Modeling Electrical Power Systems with Simscape

Modeling Driveline Systems with Simscape



= Also available in an online, self-paced format



= Part of the MathWorks certification program

# HDL Code Generation

FUNDAMENTAL

MATLAB Fundamentals



Signal Processing with Simulink

ADVANCED

Growing HDL Code from Simulink

DSP for FPGAs

Programming Xilinx Zynq SoCs with MATLAB and Simulink

Software-Defined Radio with Zynq Using Simulink

Embedded Linux and System Integration for Zynq

COURSE LIST

WHY MATHWORKS?

COURSE FORMATS

FOCUS AREAS

- Data Science
- Programming and Application Development
- Image Processing and Computer Vision
- Signal Processing and Communications
- Modeling and Simulation
- Control and Algorithm Design
- Physical Modeling
- HDL Code Generation
- C Code Generation

REGISTRATION





COURSE LIST

WHY MATHWORKS?

COURSE FORMATS

FOCUS AREAS

- Data Science
- Programming and Application Development
- Image Processing and Computer Vision
- Signal Processing and Communications
- Modeling and Simulation
- Control and Algorithm Design
- Physical Modeling
- HDL Code Generation
- C Code Generation

REGISTRATION

**FOCUS AREA** | Not all courses are applicable to everyone. Please choose the courses that best meet your individual needs.

# C Code Generation

FUNDAMENTAL

MATLAB Fundamentals



Simulink for System and Algorithm Modeling

ADVANCED

Real-Time Testing with Simulink Real-Time and Speedgoat Hardware

Embedded Coder for Production Code Generation

Code Generation for AUTOSAR Software Components

MATLAB to C with MATLAB Coder

Polyspace for C/C++ Code Verification



## COURSE LIST

## WHY MATHWORKS?

## COURSE FORMATS

## FOCUS AREAS

Data Science

Programming and  
Application Development

Image Processing and  
Computer Vision

Signal Processing  
and Communications

Modeling and Simulation

Control and Algorithm Design

Physical Modeling

HDL Code Generation

C Code Generation

## REGISTRATION

# ■ MathWorks Training Information

### ASSESS YOUR MATLAB AND SIMULINK KNOWLEDGE

Should you start with MATLAB Fundamentals or Simulink for System and Algorithm Modeling? Completing the recommended assessment prior to registering for a course will allow you to confirm what you know and confidently build the right curriculum for you. Contact your sales representative to see whether you qualify for this free service.

### GUARANTEED TO RUN

We understand making plans to attend training sessions is a commitment on your part and that cancellations can be disruptive. When you register for a course that is “Guaranteed to Run,” you can be confident that it won’t be cancelled or rescheduled for any reason.

### PURCHASE TRAINING IN VOLUME

Maximize your training budget by purchasing training in volume, which gives you discounts on future courses. Credits may be applied to any classroom, onsite, or online course within one year of purchase.

### MATHWORKS CERTIFICATION PROGRAM

Obtain Certified MATLAB Associate or Certified MATLAB Professional status, and prove your MATLAB proficiency to customers, industry peers, and employers. For organizations, certification is a strategic investment that pays off through increased productivity and project success. MATLAB training courses cover all concepts tested in exam questions. For locations of the more than 700 testing centers, dates, and fees, visit [mathworks.com/certification](https://mathworks.com/certification).

MathWorks®  
CERTIFIED MATLAB®  
ASSOCIATE

MathWorks®  
CERTIFIED MATLAB®  
PROFESSIONAL

### TWO EASY WAYS TO REGISTER

Visit: [mathworks.com/get-training](https://mathworks.com/get-training)

Call: **Australia:** +61-2-8669-4700

**India:** +91-80-6632-6000

**The Netherlands:** +31-40-2156700

**Nordic Region:** +46-8-5051-6900

**Switzerland:** +41-31-950-60-20

**United Kingdom:** +44-1223-226700

**United States and Canada:** 508-647-7000



The MathWorks BV is a Cedex-  
approved training organization.



MathWorks is registered with GARP  
as an Approved Provider of Continuing  
Professional Development (CPD) credits.

For course descriptions, classroom offerings in your area,  
and a complete schedule, visit

**[mathworks.com/get-training](https://mathworks.com/get-training)**