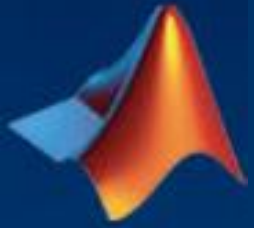




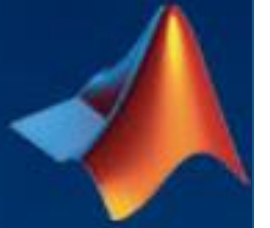
Herramientas de MATLAB para la enseñanza Online

Esperanza Linares, PhD – Ing. de *Customer Success*
Gaby Arellano – Ing. de *Customer Success*



Esperanza Linares, PhD elinares@mathworks.com

Gaby Arellano garellano@mathworks.com



Ingenieros de *Customer Success* proveen soporte a docentes e investigadores para apoyarlos con sus iniciativas en el ámbito STEM, integrando computación o pensamiento sistémico en el plan de estudios



Distance Learning Community



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[Eventos](#)

Consiga MATLAB



Distance Learning Community

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Keep Teaching through Distance Learning

Posted by Loren Shure, March 23, 2020

As many universities are moving quickly to distance learning, it is vital for educators to think carefully about how to adapt their approach to still deliver key learning outcomes for students in an online setting.

» [Read more...](#)



Welcome to the Distance Learning Community

Moderator:
[Jiro Doke](#)

This is a world-wide community for educators who are teaching remotely or online using MathWorks tools. It houses resources, such as articles, code examples, and videos, as well as an area where community members can ask questions or hold discussions around best practices in distance learning.

[Follow the community](#)



Discussions

[Start a discussion](#)



Welcome to the Distance Learning Community

Latest activity by jiro on 30 Mar 2020 at 13:17

Tags: [distance_learning](#)

0

replies



Tell us your story

Latest activity by jiro on 30 Mar 2020 at 13:05

Tags: [distance_learning](#)

0

replies

Keep Teaching through Distance Learning

Blogs Blogs ▾

[MATLAB Central ▾](#) | [All MathWorks Blogs ▾](#) | [Subscribe ▾](#)

[Trial software](#)



Loren on the Art of MATLAB

Turn ideas into MATLAB

[< Analyzing Novel Corona Virus COVID-19...](#)

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16 MAR [Analyzing Novel Corona Virus COVID-19 Dataset](#)

3 MAR [MATLAB Speaks Python](#)

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Big Data	9
Common Errors	44
Less Used Functionality	61

[more ▾](#)

Keep Teaching through Distance Learning

Posted by [Loren Shure](#), March 23, 2020

2174 views (last 30 days) | **14 likes** | **2 comments**

As many universities are moving quickly to distance learning, it is vital for educators to think carefully about how to adapt their approach to still deliver key learning outcomes for students in an online setting. Today's guest blogger, [Ramnarayan Krishnamurthy](#), is at the forefront supporting universities as they transition to distance learning. In his role as a Customer Success Engineer, he partners with educators to support them in achieving their goals for teaching and learning.

In this post, Ram presents some of the questions that educators have been asking us and discusses resources and approaches to support them.

Contents

- [How do I keep my students engaged and introduce projects in an online setting?](#)
- [How do I provide individualized student feedback in a scalable way?](#)
- [How do I ensure that my students can remotely access course material?](#)
- [How do I ensure that my students, co-instructors, and I have access to MATLAB?](#)
- [What other resources does MathWorks provide to support online teaching?](#)
- [Summary](#)

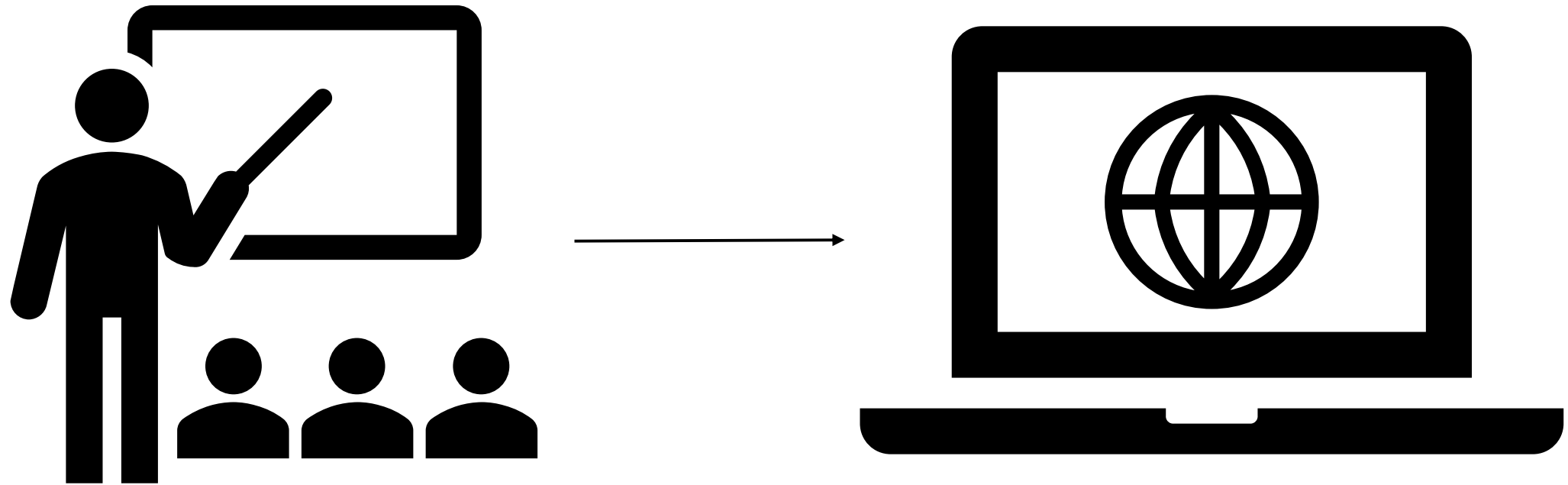
<https://blogs.mathworks.com/loren/2020/03/23/keep-teaching-through-distance-learning/>

Apoyo a investigadores trabajando en proyectos relacionados al COVID-19

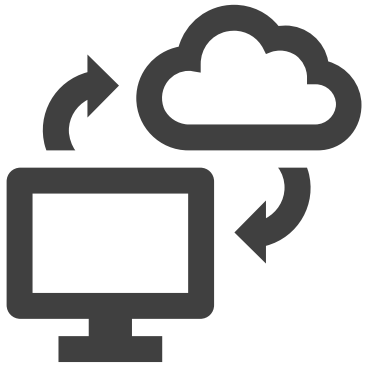
- [Dispositivos médicos](#)
- [Ciencias Biológicas](#)
- [Biotecnología/Farmacología](#)
- [Ciencia de Datos](#)
- [Deep Learning](#)
- [Big Data](#)
- [Validación de Software](#)

<https://www.mathworks.com/solutions/covid-19-research-and-development.html>

La nueva norma



Adaptar sus clases



Acceso



Formación



Evaluación



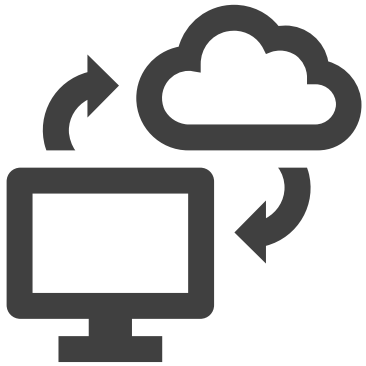
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Licencias para uso en todo el campus (Campus-Wide License)




MathWorks Demo

[Descargue su software](#) |
 [Aprenda a utilizar MATLAB](#) |
 [Enseñe con MATLAB](#) |
 [Novedades](#)

Acceso a MATLAB para todo el personal y alumnos en

Nombre de su universidad

MATLAB®
& SIMULINK®



¿Por qué es importante usar MATLAB y Simulink?

El 82 % de las empresas de la lista Fortune 100 utilizan MATLAB, lo que significa que usted podrá aplicar sus ideas fuera del aula para impulsar las nuevas tecnologías y progresar en su carrera profesional.

Descargue MATLAB y Simulink

[Consulte la lista de productos disponibles](#)

Escritorio. Online. Móvil.

Descarga gratis a través de la licencia de su centro.

Inicie sesión para empezar a utilizarlos



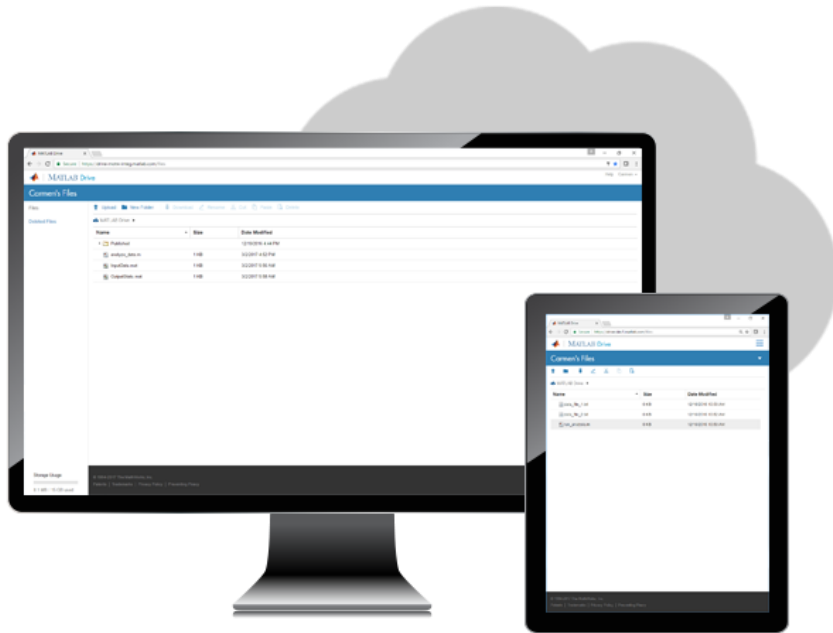
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MATLAB Online y MATLAB Drive



- No necesita descargar o instalar MATLAB
- Siempre trabajará con la versión mas actualizada
- No hay especificaciones mínimas para sus dispositivos, aparte de las de su navegador web
- Ideal para enseñar, aprender y con acceso conveniente y liviana



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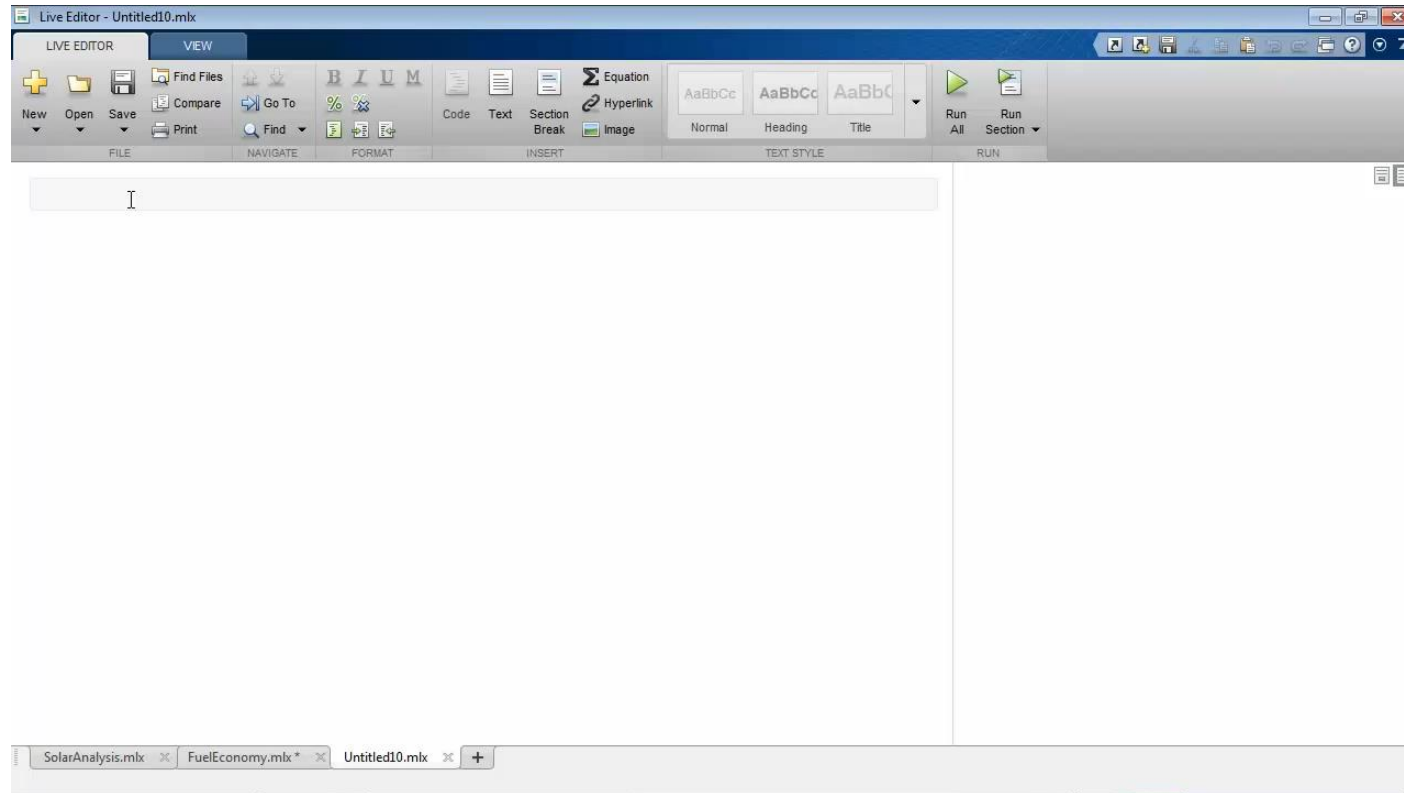
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Programación interactiva con Live Editor



Permite:

- Enseñar con documentos interactivos.
- Acelerar la programación exploratoria.
- Crear una narrativa interactiva.
- Crear informes consistentes.

<https://www.mathworks.com/products/matlab/live-editor.html>

<https://www.mathworks.com/products/matlab/live-script-gallery.html>

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Apps de MATLAB y App Designer

MACHINE LEARNING AND DEEP LEARNING

- Classification Learner
- Deep Network Designer
- Neural Net Clustering
- Neural Net Fitting
- Neural Net Pattern Reco...
- Neural Net Time Series
- Regression Learner

IMAGE PROCESSING AND COMPUTER VISION

- Camera Calibrator
- Color Thresholder
- DICOM Browser
- Image Acquisition
- Image Batch Processor
- Image Browser
- Image Labeler
- Registration Estimator
- Stereo Camera Calibrator
- Video Labeler
- Video Viewer
- Volume Viewer

MATH, STATISTICS AND OPTIMIZATION

- Curve Fitting
- Distribution Fitter
- Optimization
- PDE Modeler

CONTROL SYSTEM DESIGN AND ANALYSIS

- Control System Designer
- Control System Tuner
- Diagnostic Feature Desi...
- Fuzzy Logic Designer
- Linear System Analyzer
- Model Reducer
- MPC Designer

The screenshot shows the MATLAB App Designer interface for a mortgage app. The central canvas displays a form with input fields for 'Loan Amount' (300000), 'Interest Rate %' (4), 'Loan Period (Years)' (30), and 'Monthly Payment' (0.00). To the right is a plot titled 'Amortization Schedule' showing 'Principal and Interest' vs 'Loan Period'. The interface includes a 'COMPONENT LIBRARY' on the left and a 'COMPONENT BROWSER' on the right. Red circles highlight: 1. A 'Check Box' in the component library; 2. The 'Interest Rate %' input field; 3. The 'Minimum' value property in the 'EDIT FIELD (NUMERIC) PROPERTIES' panel; 4. The 'Amortization Schedule' plot.

<https://www.mathworks.com/discovery/matlab-apps.html>

<https://www.mathworks.com/products/matlab/app-designer.html>

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Cursos disponibles en línea

FREE	FREE	NEW FREE	FREE	NEW FREE
MATLAB Onramp Aprenda rápidamente conceptos básicos de MATLAB (Disponible en español)	Simulink Onramp Aprenda rápidamente conceptos básicos de SIMULINK	Machine Learning Onramp Aprenda métodos básicos y prácticos de machine learning para problemas de clasificación	Deep Learning Onramp Empiece rápidamente a usar métodos de deep learning para reconocimiento de	Stateflow Onramp Aprenda lo básico para crear, editar y simular máquinas de estado en Stateflow

Matemática Computacional

Disponible únicamente en universidades que cuenten con licencia con acceso a cursos en línea

NEW	NEW	NEW	NEW
Solving Nonlinear Equations with MATLAB	Solving Ordinary Differential Equations with MATLAB	Introduction to Linear Algebra with MATLAB	Introduction to Statistical Methods with MATLAB

Core MATLAB Functionality

MATLAB Fundamentals	MATLAB Programming Techniques	MATLAB for Financial Applications	MATLAB for Data Processing and Visualization

(Disponible en español)

Data Analytics

NEW	NEW
Machine Learning with MATLAB	Deep Learning with MATLAB Aprenda la teoría y práctica de construir redes neuronales con imágenes y secuencia de datos de la vida real

11 horas de contenido GRATUITO

Introducción a MATLAB (en español)
 (Simulink y Stateflow Onramp requiere MATLAB de escritorio)

> 7 horas de Matemática Computacional
 Ideal para estudiantes de pregrado

> 80 horas de Amplio contenido didáctico
 Ideal para estudiantes de posgrado e investigadores

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Enseñanza con MATLAB

Aumente la participación de sus alumnos y mejore sus clases con las herramientas de aprendizaje online de MathWorks

Iniciar el curso



Acceso a MATLAB a través de su navegador web



Uso compartido de archivos integrado en MATLAB



Ejercicios prácticos con evaluaciones automatizadas y comentarios



Recursos listos para usar para mejorar sus clases

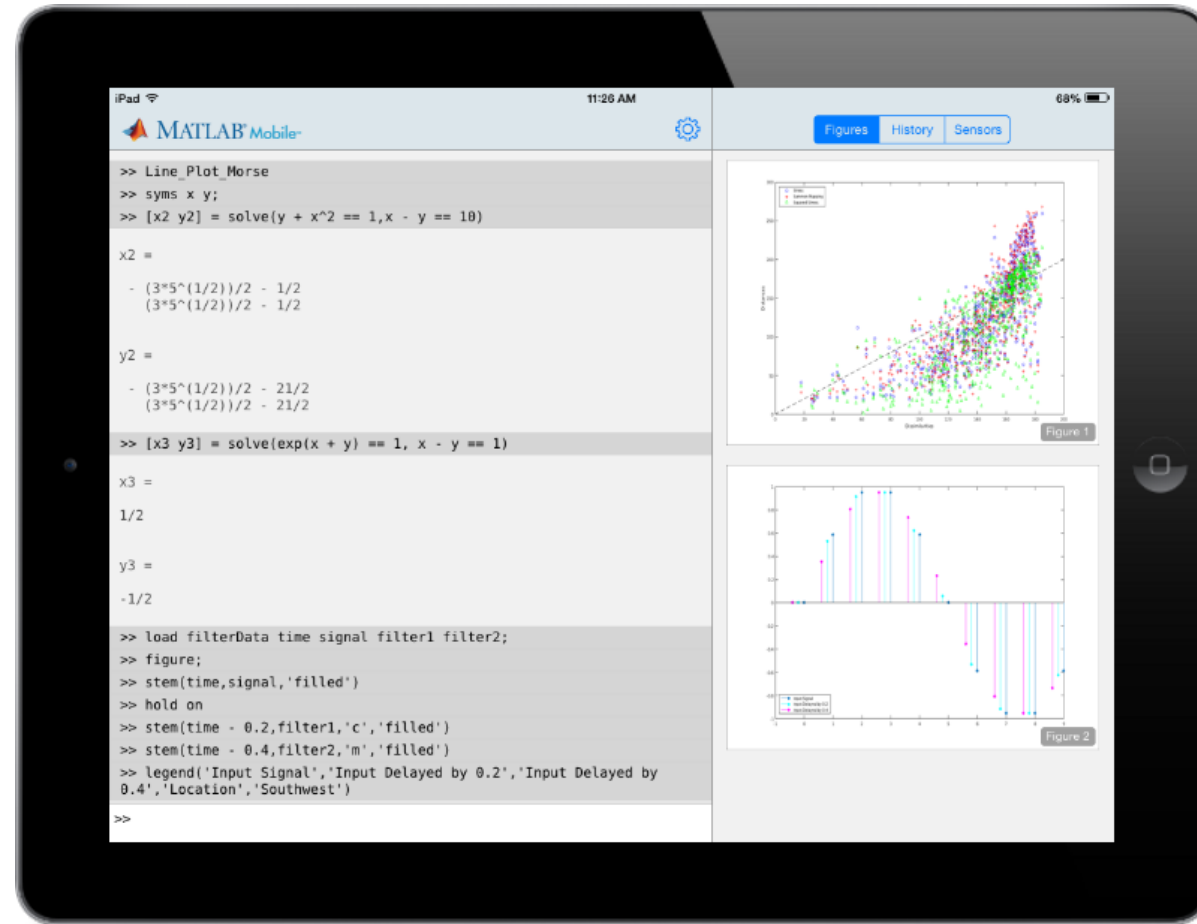
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MATLAB Mobile



<https://la.mathworks.com/products/matlab-mobile.html>

<https://blogs.mathworks.com/community/category/matlab-mobile/> 16

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Internet de las cosas (IoT) con ThingSpeak

Proyectos basados en la nube



Collect

Send sensor data privately to the cloud.



Analyze

Analyze and visualize your data with MATLAB.



Act

Trigger a reaction.

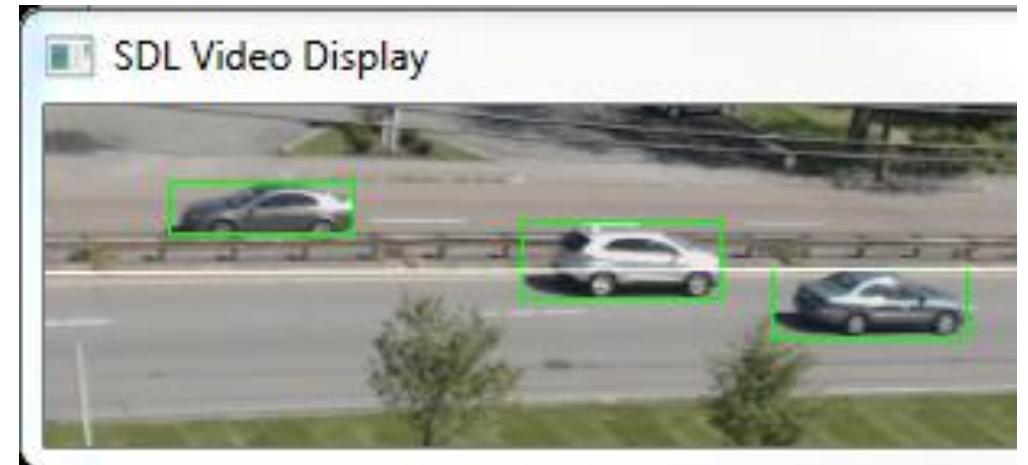
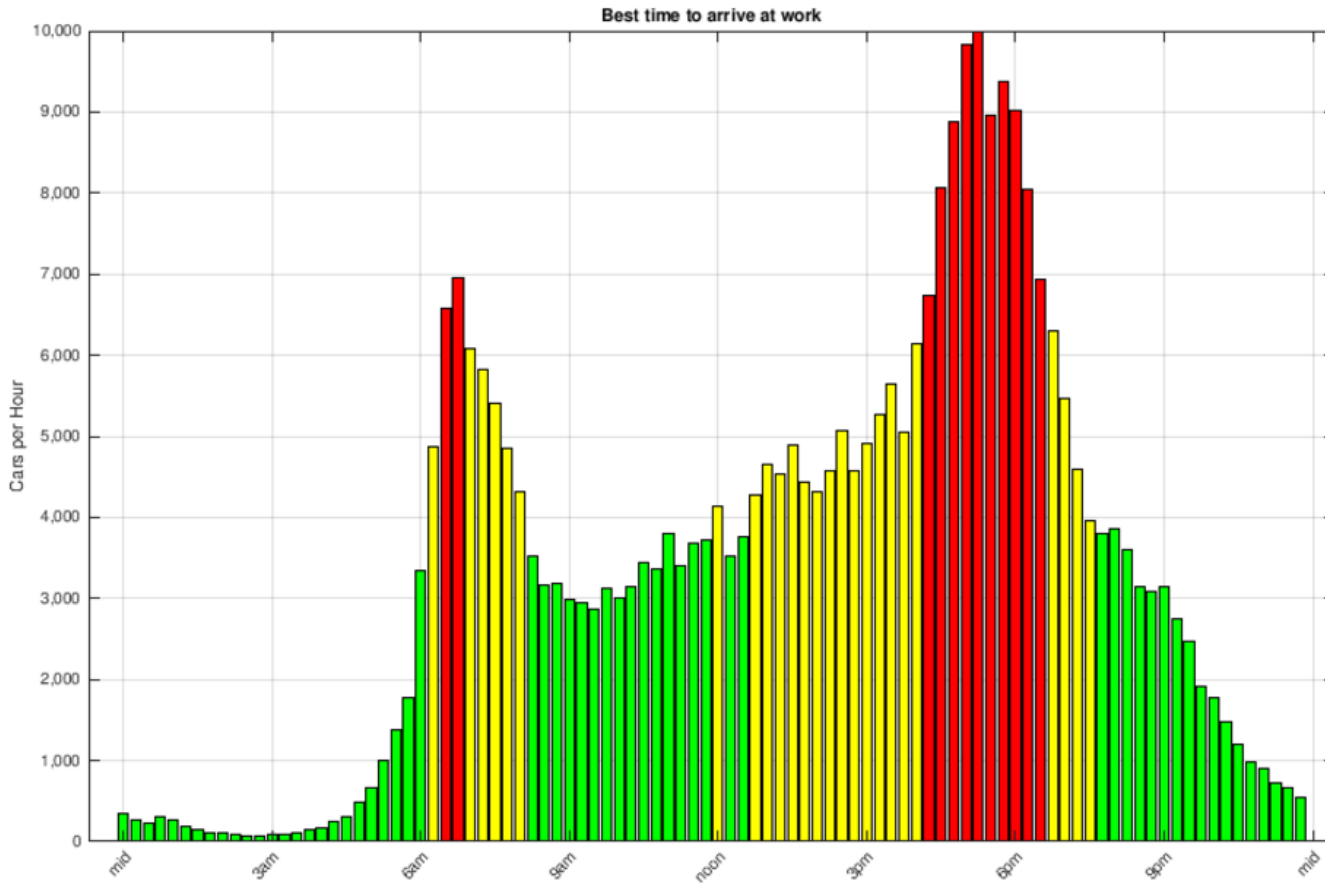
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¿A qué hora debo salir a la casa?

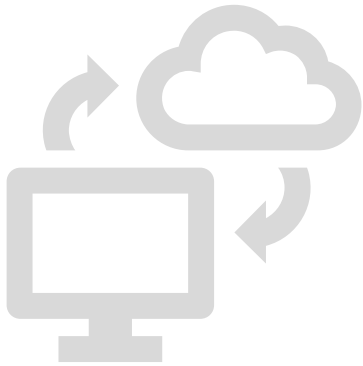


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Evaluación



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Corrección automática de ejercicios en MATLAB

Evaluación automática: <https://grader.mathworks.com/>



Diseñe ejercicios interactivos para sus cursos



Evalúe automáticamente el trabajo de los alumnos y proporcione comentarios



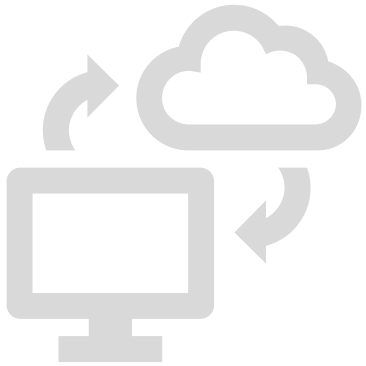
Ejecute sus ejercicios en cualquier entorno de aprendizaje

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MATLAB Courseware

Materiales de clase creados por otros educadores (en inglés)

MATLAB Courseware

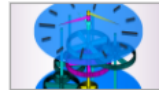
[Educator Home](#) |
 [Classroom Resources](#) ▾ |
 [Hardware Support](#) |
 [License Options](#) ▾ |
 [Research](#)

Introduction to Engineering



Engineering Models I

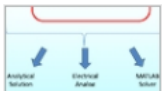
Professor Kathleen Ossman
Professor Gregory Bucks
 University of Cincinnati



Engineering Models II

Professor Kathleen Ossman
Professor Gregory Bucks
 University of Cincinnati

Bioengineering and Biological Sciences



Bioengineering Mass Transport and Systems

Professor Alyssa Taylor
 University of Washington



Instrumentation, Measurement and Control in Biological Systems

Professor Kumar Mallikarjunan
 Virginia Polytechnic Institute & State University

Earth, Ocean, and Atmospheric Sciences



Teaching Geoscience with MATLAB

from *SERC@Carleton*

Kits de enseñanza gratuitos

Material descargable:

- Apuntes de clase
- Ideas de proyectos
- Código

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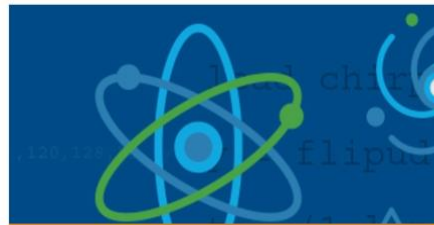
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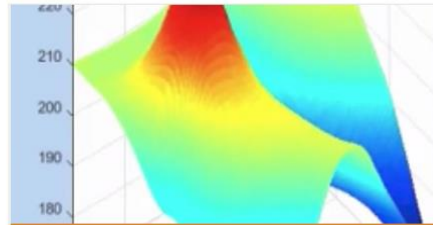
Enseñar ciencia con MATLAB

Teach and Learn MATLAB



Teaching Physics with MATLAB

» Integrate MATLAB into a Physics curriculum



Teaching Geoscience with MATLAB

» Integrate MATLAB into a Geoscience curriculum



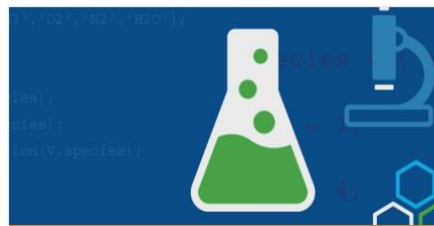
Teaching Biology with MATLAB

» Integrate MATLAB into a Biology curriculum



Teaching Calculus with MATLAB

» Integrating MATLAB into a Calculus curriculum



Teaching Chemistry with MATLAB

» Integrate MATLAB into a Chemistry curriculum



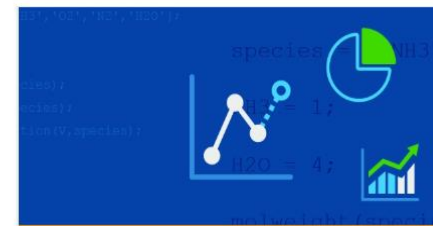
Teaching Psychology and Neuroscience

» Integrate MATLAB into a Psychology and Neuroscience curriculum



Teaching Econometrics with MATLAB

» Integrating MATLAB into Econometrics curricula



Teaching Quantitative Finance and Risk Management with MATLAB

» Integrating MATLAB into Quantitative Finance and Risk Management curricula

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Ejemplos de la industria: Videos y webinars

www.mathworks.com/videos

The screenshot shows the MathWorks website's 'Videos and Webinars' section. At the top, there is a navigation bar with links for Products, Solutions, Academia, Support, Community, and Events. Below this is a search bar for videos and a 'Videos' dropdown menu. The main heading is 'MATLAB and Simulink Videos', with a sub-heading 'Learn about MATLAB® and Simulink®, watch demonstrations about how to get started, and explore what's new.' There is a search bar for videos and a dropdown menu to 'Explore videos by product'. Below this, there are 'Applications' listed: Internet of Things, Robotics, Wireless Communications, Image Processing and Computer Vision, Data Analytics, and Power Electronics Control Design.

The 'MATLAB Videos' section is highlighted in orange. It features a sidebar navigation menu with the following items: Introduction (selected), Getting Started, What's New, Data Analytics and Machine Learning, Deep Learning, Image Processing and Computer Vision, Computational Finance, and Signal Processing and Wireless Communications. The main content area is titled 'Introduction' and contains several video thumbnails with titles and durations:

- Analyzing and Visualizing Data with MATLAB** (3:26)
- Programming and Developing Algorithms with MATLAB** (4:32)
- What Is MATLAB?** (2:05)
- Developing and Deploying Applications with MATLAB** (3:51)
- Technical Computing with MATLAB** (2:38)

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Ideas de la industria: Ejemplos en MATLAB y Simulink

<https://la.mathworks.com/help/examples.html>

The screenshot displays the MathWorks MATLAB Examples website. At the top, there is a navigation bar with links for Products, Solutions, Academia, Support, Community, and Events. Below this is a search bar for 'MATLAB Examples' and a dropdown menu for 'Examples'. A left sidebar lists categories under 'MATLAB Family' and 'Simulink Family'. The main content area features a featured example titled 'Object Detection in a Cluttered Scene Using Point Feature Matching', which includes a small image of a cluttered scene and a description: 'Detect a particular object in a cluttered scene, given a reference image of the object.' Below this, a 'Most Viewed' section displays four example thumbnails: 'Introduction to MIMO Systems' (a BER vs. SNR plot), 'Scatter Plot and Eye Diagram with MATLAB Functions' (eye diagrams and scatter plots), 'CoMP Dynamic Point Selection with Multiple CSI Processes' (a plot of CQI vs. Subframe number), and 'Simulating Automatic Climate Control Systems' (a Simulink block diagram).

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MATLAB Central

MATLAB[®] Central

Search Support

Support ▾

MATLAB Answers | File Exchange | Cody | Blogs | ThingSpeak | SimBiology Community | Power Electronics Community | Advisors

An open exchange for the MATLAB and Simulink user community

https://www.mathworks.com/matlabcentral/?s_tid=gn_mlc

Resumen de las herramientas online

Acceso conveniente

- **MATLAB Online:** Ejecuta MATLAB en un navegador web
- **MATLAB Mobile:** Utilice MATLAB en una tablet o teléfono
- **MATLAB Drive:** Utilice sus archivos de MATLAB en cualquier lugar



Recursos online para su curso

- **MATLAB Grader:** Evalúe ejercicios en MATLAB de manera automática
- **MATLAB Courseware:** Utilice materiales didácticos creados por otros educadores
- **Formación online:** Cursos interactivos a su propio ritmo



¿Qué hago si necesito ayuda?

- Explore las páginas del producto y la documentación
- Acuda a la comunidad de usuarios de MATLAB
 - [MATLAB Central](#)
 - [Distance Learning Community](#)
- Contáctenos
 - Soporte técnico
 - MathWorks
 - Esperanza Linares elinares@mathworks.com

