Learning Content for Control of Mobile Robots

## Getting Started with MATLAB

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| **Learning Module** | **YouTube Link** |
| What is MATLAB? | <https://youtu.be/R-rYijwARBI> |
| MATLAB Variables | <https://youtu.be/G40NdpcjrL0> |
| MATLAB as a Calculator | <https://youtu.be/-nkeGDEJRhs> |
| Creating Vectors | <https://youtu.be/XqRIr7u5liE> |
| MATLAB Functions | <https://youtu.be/9yNEpXRZPVU> |
| Creating Uniformly Spaced Vectors | <https://youtu.be/piYkWySaI6c> |
| Calculations with Vectors | <https://youtu.be/E3MzTsL46bk> |
| Creating Matrices | <https://youtu.be/IPA6-PNAKl4> |
| Matrix Multiplication | <https://youtu.be/bpE45Tmycqc> |

## Working with Arrays

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| **Learning Module** | **YouTube Link** |
| Array Creation Functions | <https://youtu.be/a3pFZJChePw> |
| Array Size and Length | <https://youtu.be/5hNAqXk9ETo> |
| Accessing Elements of an Array | <https://youtu.be/dpC6900Dfg0> |
| Conditional Data Selection | <https://youtu.be/tErlzkXmdu8> |

## Program Control

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| **Learning Module** | **YouTube Link** |
| Logical Operators | <https://youtu.be/-7TWS8pdm1A> |
| If-Else Statement | <https://youtu.be/kDALOAlfxYY> |
| For Loop | <https://youtu.be/70IUTsonldY> |

## Data types

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| **Learning Module** | **YouTube Link** |
| Structure Arrays | <https://youtu.be/-mCnEJQ0eZs> |
| Working with Classes | <https://youtu.be/0kx-Q3P1QUY> |
| Symbolic Calculations | <https://youtu.be/wEzeMxA6xak> |

## Further Training

The MATLAB license for this course give you the opportunity to learn MATLAB interactively, at your own pace, with [MATLAB academy](https://matlabacademy.mathworks.com/). You can complete the free two hour MATLAB Onramp course to gain more practice using MATLAB. To access MATLAB Academy you will need to first associate your MathWorks account with the MATLAB license for this course. Then use the link above to go to MATLAB Academy.