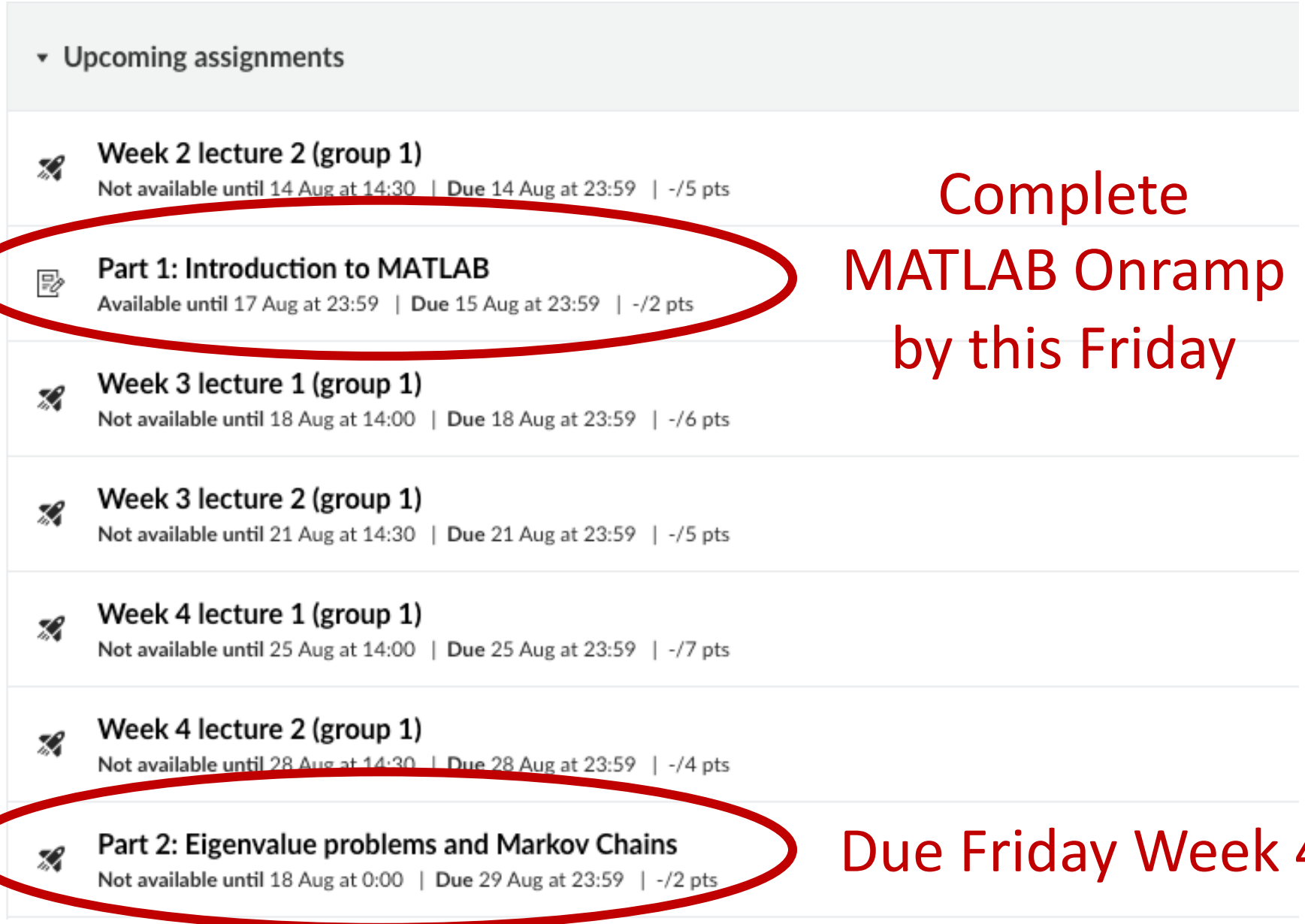
Plan for Week 2 Computer Lab

- Please run through the "**MATLAB Lab 2**" document, and try entering the examples into the window
- We'll learn more about basic MATLAB commands such as the "for loop" and how to find eigenvectors and eigenvalues using MATLAB
- Continue with the **MATLAB Onramp Course** on the MathWorks website
- **MATLAB Project Part 1**: Please upload your progress report for the Onramp Course (modules 1-10) by **15 August** (Friday Week 2)

Upcoming assignments

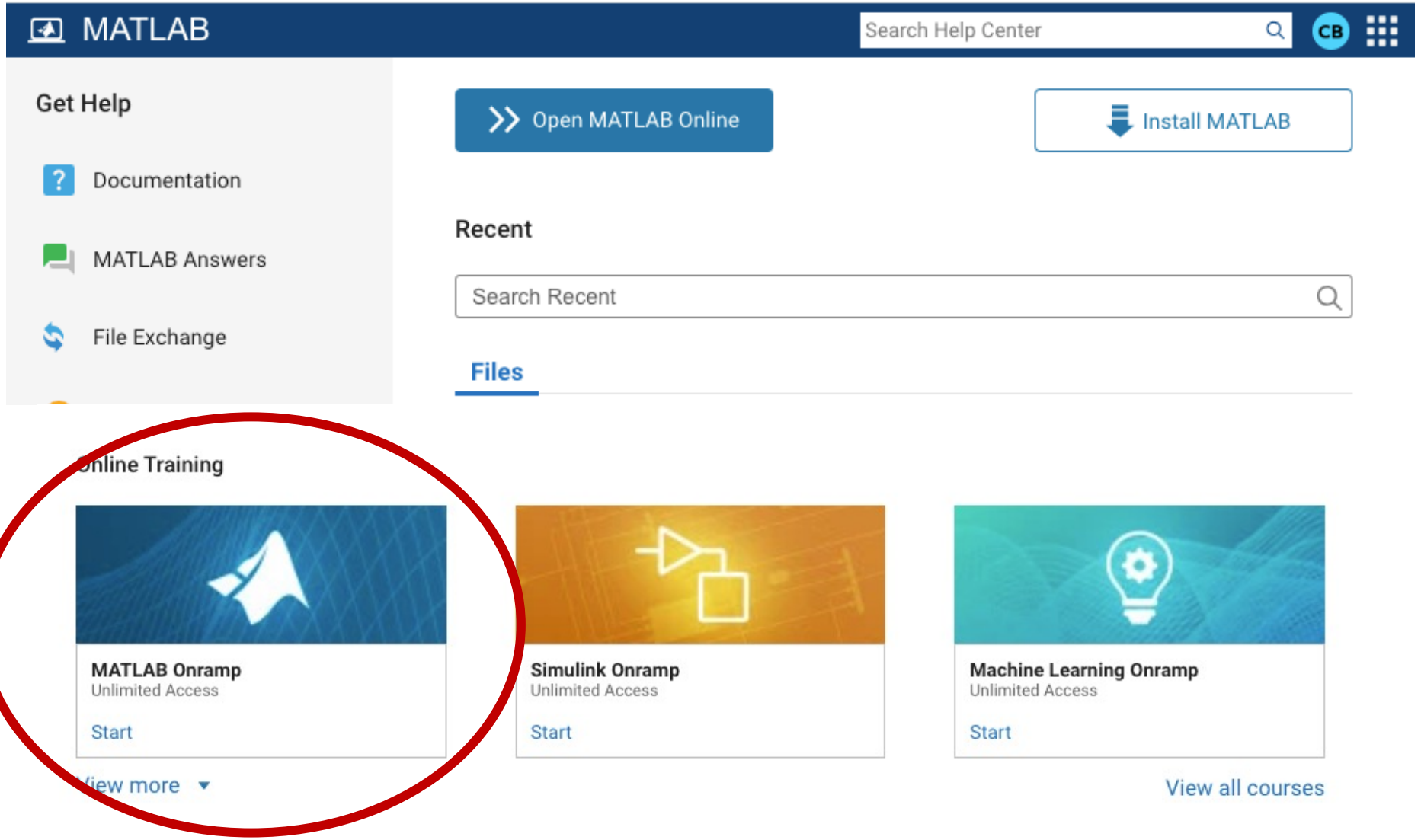


Complete MATLAB Onramp by this Friday

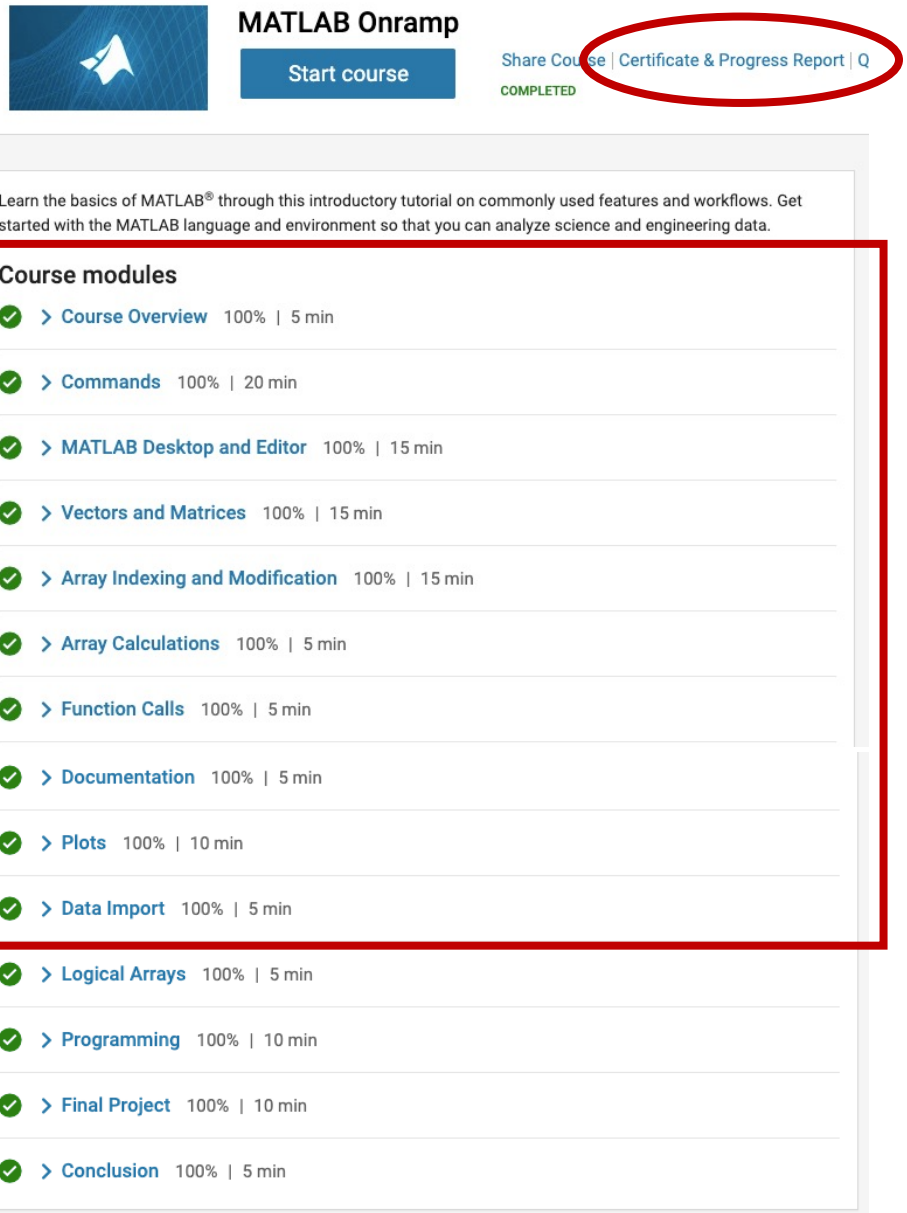
Due Friday Week 4

MATLAB Onramp

- Can access from the MathWorks website:

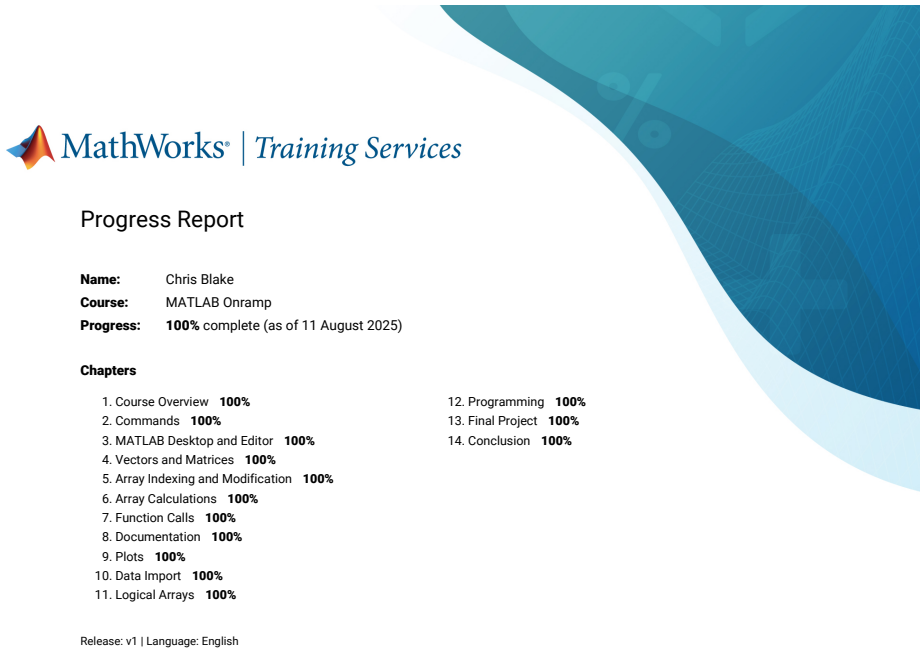


MATLAB Onramp



Complete this at a minimum to get full marks for “Introduction to MATLAB” assignment

Upload Progress Report



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Progress Report

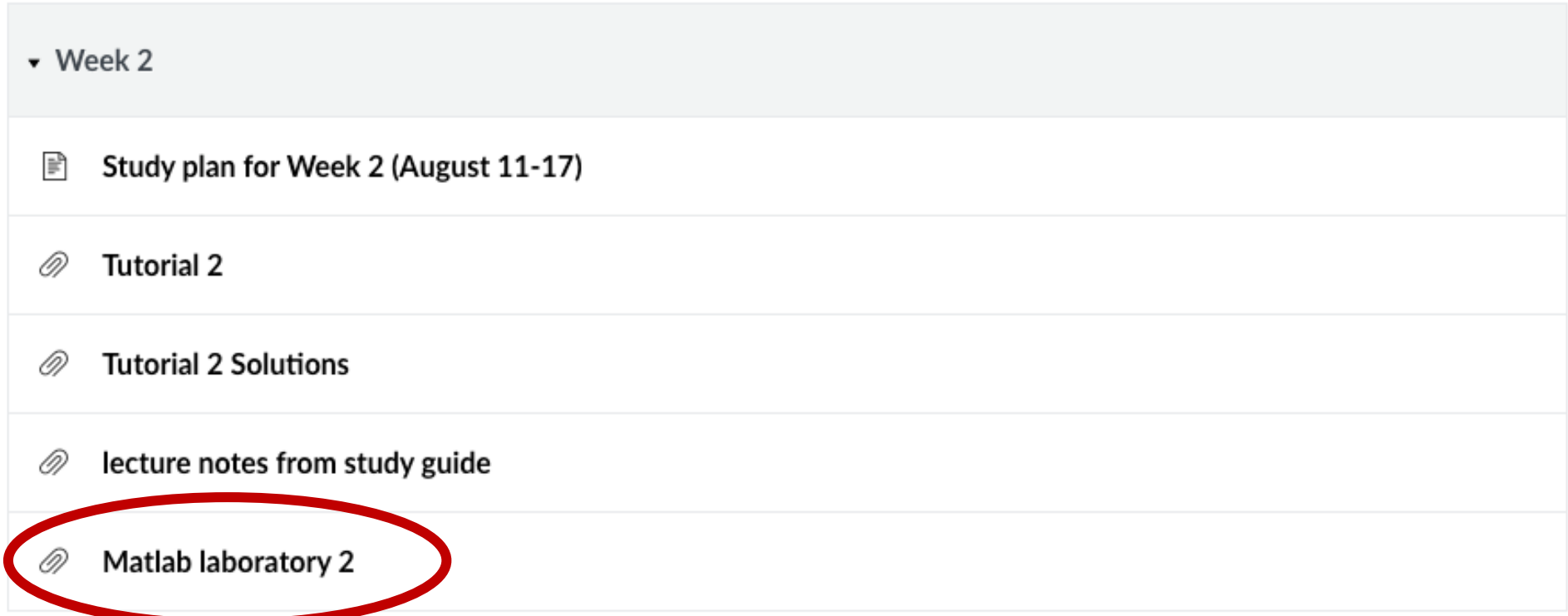
Name: Chris Blake
Course: MATLAB Onramp
Progress: **100%** complete (as of 11 August 2025)

Chapters

1. Course Overview **100%**
2. Commands **100%**
3. MATLAB Desktop and Editor **100%**
4. Vectors and Matrices **100%**
5. Array Indexing and Modification **100%**
6. Array Calculations **100%**
7. Function Calls **100%**
8. Documentation **100%**
9. Plots **100%**
10. Data Import **100%**
11. Logical Arrays **100%**
12. Programming **100%**
13. Final Project **100%**
14. Conclusion **100%**

Release: v1 | Language: English

Lab 2 instructions



Reminder on running MATLAB

lab1.m ×

/MATLAB Drive/lab1.m

```
1   % Script for Lab 1 exercises at the end
2   clear;
3
4   % Solving a system of linear equations
5   indx = [1 2 3 4 5]
6   A = rand(5,5)
7   det(A)
8   linsolve(A,indx')
9
10  % Finding eigenvectors and eigenvalues
11  % V = modal matrix
12  % D = spectral matrix
13  [V,D] = eig(A);
14  D(5,5)
15  V(:,5)
16  E = V^(-1)*A*V;
17  D(1,1)-E(1,1)
18
19  % Plot the magnitude of the components of the eigenvectors
```

You can type commands in a script, then run the script

Command Window

New to MATLAB? See resources for Getting Started.

```
>> clear
>>
```

You can type commands directly in the Command Window

By the end of today ensure you can …

Determinant and trace	`>> A = [1 2 2; 2 2 -2; 3 4 -1]`
	`>> det(A)`
	`>> trace(A)`

Invert a matrix	`>> inv(A)`

Solve linear equations	`>> r = [3; 1; 3]`
	`>> inv(A)*r`
	`>> linsolve(A,r)`

Find eigenvectors and eigenvalues of a matrix	`>> [V,D]=eig(A);` `>> e = eig(A)`

Check normalization of eigenvectors	`>> for i=1:3`
	`sum(V(:,i).^2)`
	`end`