

# GoogleDocs:duckietown-public/Modules\_and\_labsModule M03\_04-DOD: Demo or Die

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Deadline: Thu Mar 10, 11:59pm

Feedback and discussion about this module belong to the Slack channel [#m03\\_04-DOD](#), or **comment** directly here.

Please **do not** edit directly (even if you can), because sudden changes might be very confusing for other students. If you find inconsistencies, please use the *comment* function.

Instructors: please clearly mark the changes in a different color.

## DOD0: Essential References

Watch *Star Wars: Episode IV - A New Hope*. [Here's a copy](#).<sup>1</sup>

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Grading guide:

Bonus (5%) Find someone that has seen the movie (they have put a checkmark for the question in the [#random](#) channel on slack) and get them to ask you a skill-testing question.

## DOD1: Testing and Conventions

Follow the [instructions in Lab 04](#)

Grading guide:

Exercise 1 - pushing to the right branch (4%)

Exercise 2 & 3 - package creation and pull request (10%)

Exercise 4 - conventions and testing (16%) (2% for each sub-part (a)-(h))

## DOD2: Calibrations

Follow the [Instruction in Lab 05](#) and calibrate your robot

Grading Guide:

Exercise 2: Wheels (existence of .yaml file in repo) (10%)

Exercise 3: Intrinsic camera (existence of .yaml file in repo) (10%)

Exercise 4: Extrinsic camera (existence of .yaml file in repo) (10%)

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<sup>1</sup> The fair use doctrine allows copyrighted material to be made available for educational purposes.

## DOD3: “Demo or die”

Follow the [instructions in Lab 05](#) and reproduce the lane following demo.

Goal: 2 loops around the track.

Take a video of the result and record a bag file.

*Example video, by Mrinal (and Tristan! that’s morty!): <https://vimeo.com/157946094> (needs to be 2 loops).*

Put the video and bag file on Dropbox, in the folder

```
Duckietown-data:pictures/M03_04-demo_or_die/<handle>/
```

with names:

```
[...] /M03_04-demo_or_die/<handle>/1603XX-<handle>-${VEHICLE_NAME}-external.mov  
[...] /M03_04-demo_or_die/<handle>/1603XX-<handle>-${VEHICLE_NAME}.bag
```

Note: to make the entire track you will have to either (a) find a friend and combine each your 3 tiles (preferred) or (b) come to 32-226 and temporarily borrow three extra tiles; or the Duckietown in 35-316 when ready.

Grading guide:

Existence of file and video on dropbox (50%)

Bonus (5%)

Take the video somewhere cool (any member of the staff can confirm the “coolness” of a given location)

## Tips from Hang

Here are some tips for troubleshooting:

- (1) use [rqt\\_graph](#) to make sure nodes are connected correctly;
- (2) [RVIZ](#): look at line segments MarkerArray to make sure
  - (i) the color of lanes are detected correctly;
  - (ii) ground projection is working fine;
- (3) [RVIZ](#): look at belief image to make sure the lane filter is publishing;
- (4) [RVIZ](#): look at the pose estimation to see if the lane filter is working reasonably.

After these steps you should be able to locate the bugs.