**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](https://www.dropbox.com/s/3dtufqae33c1g2a/Star.Wars.Episode.IV.A.New.Hope.1977.1080p.Bluray.x264.anoXmous.mp4?dl=0).[[1]](#footnote-0)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](http://drive.google.com/open?id=1MDDKQTU_WY3JhJJJIpgCpuXoyI-bZyIWEuh7R0PGpDY)

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](http://drive.google.com/open?id=1XnYiyk3lT8BaPNgPtY79yR7QNIhZFB2ZZcoTyNcwNtE) 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: Extrinsics camera (existence of .yaml file in repo) (10%)

### DOD3: “Demo or die”

Follow the [instructions in Lab 05](http://drive.google.com/open?id=1XnYiyk3lT8BaPNgPtY79yR7QNIhZFB2ZZcoTyNcwNtE) 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*](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.

1. The fair use doctrine allows copyrighted material to be made available for educational purposes. [↑](#footnote-ref-0)