

# 17013 Teoria de Control Realimentat

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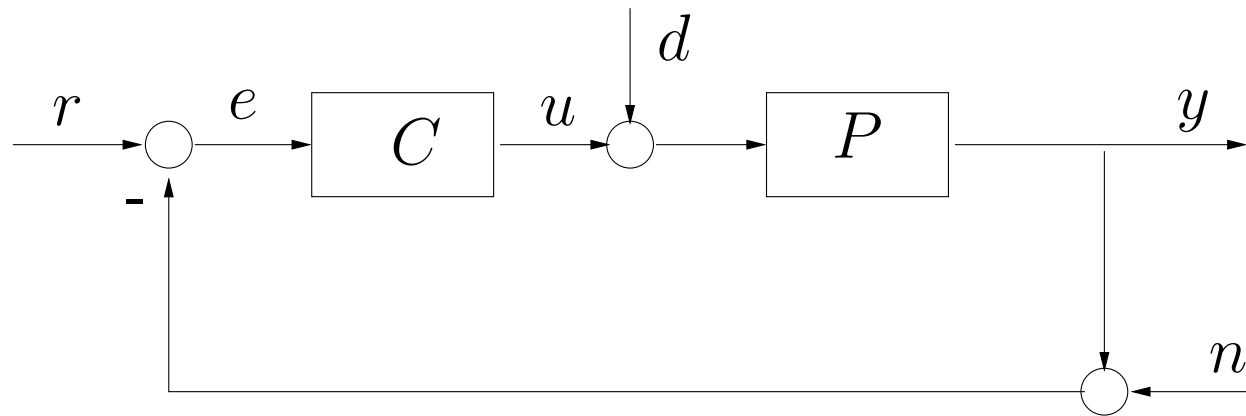
Course web page:

<http://anduril.epsevg.upc.es/~carles/ioc17013>

# Course description (I)

## Course goal: robust feedback control

Plant, controller, exogenous signals and internal signals



$r$  command input

$e$  tracking error

$u$  control signal

$d$  plant disturbance

$y$  plant output

$n$  sensor noise

# Course description (II)

- In practice, it is not possible to model  $P$  exactly (parameters not precisely known, nonlinearities).
- Also, disturbances and noise are generally unknown.
- A feedback controller is **robust** if it works as expected for all the plants belonging to a given set.
- Robust stability: bounded internal signals (for bounded inputs).
- Robust performance: ability to track a reference signal.

# Course description (III)

## References

- *Feedback Control Theory*, Doyle-Francis-Tannenbaum. Out of print, freely downloadable at [www.control.utoronto.ca/people/profs/francis/dft.html](http://www.control.utoronto.ca/people/profs/francis/dft.html) including a partial solution set.
- Additional resources available at the course's web page.

## Grade

0.6 homework + 0.4 open book exam