

Yet another virtual networking lab: GENI wireless Classroom-as-a-Service

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What's different about this virtual networks lab?

Tools to reduce friction associated with the platform, so as to focus on content (use GENI to teach networking, not to teach GENI).

Offered in fully hosted "Classroom-as-a-Service" format.

Built on cellular wireless, which has more interesting behavior than wired networks by default.

Designed to ease transition from "basic" to "intermediate" prepared experiments, to independent design projects (more details below).

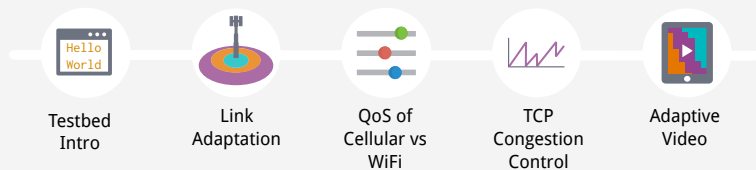
Lab activities for standard courses

Exercises emphasize higher-level concepts and realistic mental models of networks over details of protocols.

Wireless communications

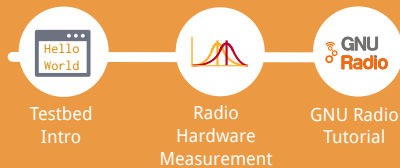


Computer networks



Project: Cognitive radio

Inspired by the DARPA spectrum challenge, this course teaches wireless communications, signal processing, and software radio in the context of a Spectrum Challenge-like competition.



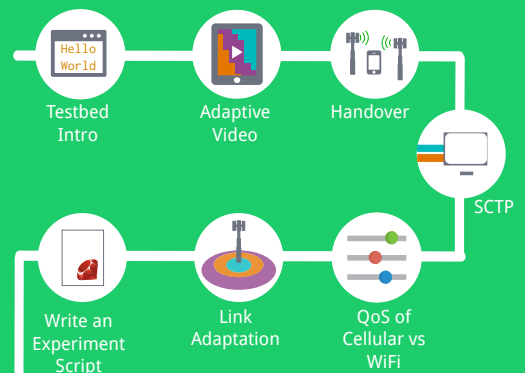
Students' software radio designs compete, tournament style.

Student designs:



goo.gl/tr2qLN

Project: Independent network design projects



Students implement independent network design projects.

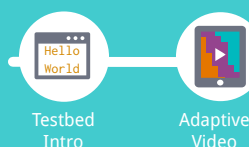
Project abstracts:



goo.gl/GWqqgM

Project: Adaptive video

This is a project to supplement a standard computer networks course.



Students design an original adaptive video policy in VLC to out-perform a benchmark implementation on three video quality metrics: average video rate, smoothness of rate changes, and rebuffer avoidance.