



THE UNIVERSITY  
*of* NORTH CAROLINA  
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# Teaching Networking Concepts: GENI Based Course Modules

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# Goals for this Project

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- Develop curricular modules for teaching core networking concepts in an undergraduate networking class
- Modules based on concepts from two widely used textbooks (Kurose and Ross, Tanenbaum and Wetherall)
- Example topics: TCP congestion control, TCP throughput, traffic generation, IP routing and forwarding, router buffering
- <http://geni.web.unc.edu>



# Use Modules for...

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- **In-class Demo:**

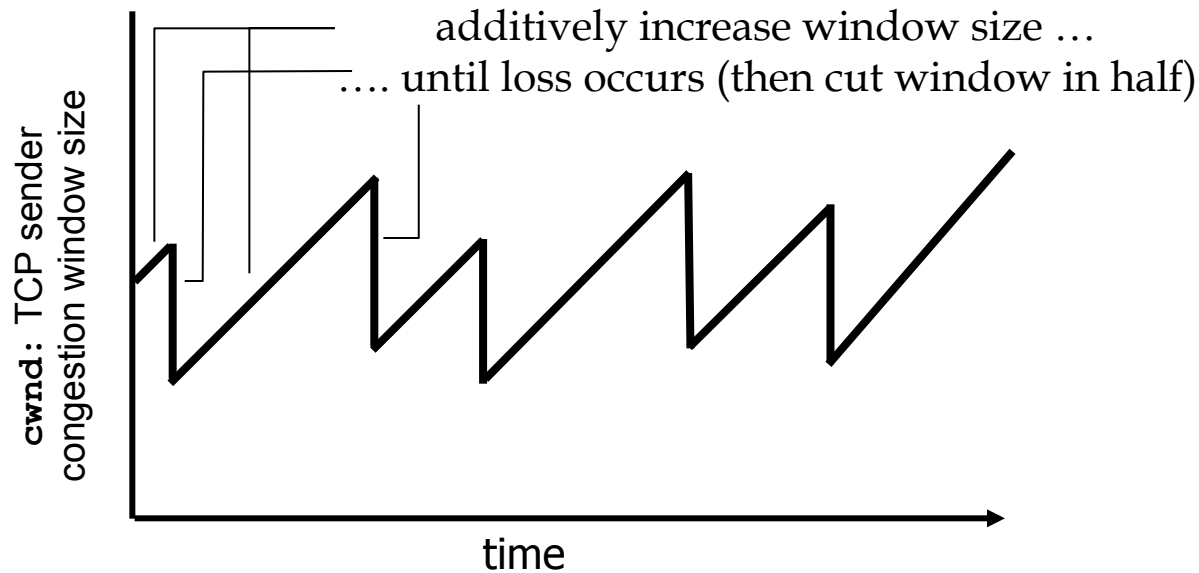
Teaching Concepts Through  
Demonstration

- **Assignments:**

Learning Through Experimentation



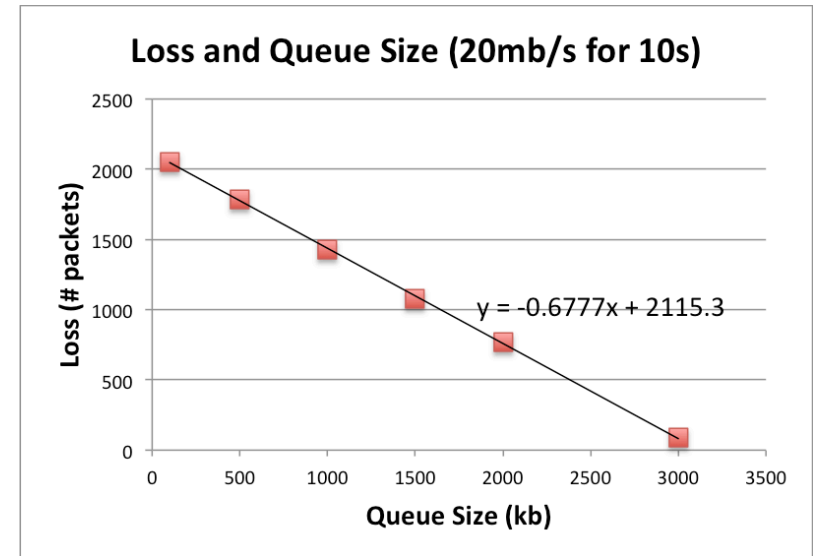
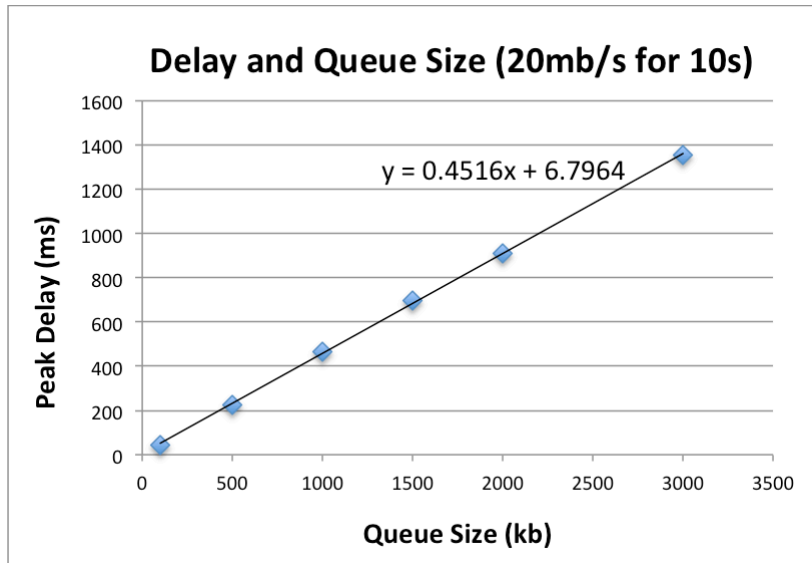
# Example 1: TCP Congestion Control



**TCP congestion control: AIMD**  
(Additive Increase Multiplicative Decrease)



# Example 2: Exploring Queues





# What's in a Module?

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Let's visit...

[geni.web.unc.edu](http://geni.web.unc.edu)



# Schedule

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- Watch for our poster and demo at the session this evening! Stop by and talk with us!
- At least ten modules available for Fall 2015 courses



# We welcome your Feedback

- Please contact me @  
[aikat@cs.unc.edu](mailto:aikat@cs.unc.edu)
- Cloud Computing and Cloud Security Curriculum Development Workshop @ UNC  
<http://silver.web.unc.edu/ttt/>





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Thank you!

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