ECE4112 Internetwork Security
Final Survey Fall 2004

(Please also do the official: www.coursesurvey.gatech.edu/login.cfm ) Please help me to improve future offerings of this class.

What was your favorite lab and why?

Passwords, sniffing, man in the middle - was very interesting material

What was your least favorite lab and why?

Wireless because the lab didn't work for most of the groups

What can be done to improve the labs?

This should test lab on current set-up to ensure it will work before students find problems

Are there any topics in the course that you think should either not be covered or that we covered too much or too little? Please be specific.

I think it is difficult to cover all the material in such a short term. Would be good to have a semester course so each topic could be explored in more depth

Should this class have written tests? If so over what material?

No time is better spent in the lab

What could have been done to make your education experience in ECE4112 better?

Math additions optional for each lab but require at least 6 of the lab additions be done

Do you have any additional comments or suggestions? (Use the back if you need it....)

I learned more in this class than any other this semester
What was your favorite lab and why?

Rather no. I've always been interested in OS vulnerabilities.

What was your least favorite lab and why?

Wireless. As much as I love wireless, many things didn't work in the lab.

What can be done to improve the labs?

I think it needs to make sure that everything is set up properly and stays at that condition throughout the week.

Are there any topics in the course that you think should either not be covered or that we covered too much or too little? Please be specific.

Encryption was rarely covered. I do believe mentioning and introducing different types of encryption scheme is necessary in a security class.

Should this class have written tests? If so over what material?

No, I like the fact that it is more hands-on class. This makes this class unique from other security class.

What could have been done to make your education experience in ECE4112 better?

I think it's been great and just few adjustments in contents of labs will improve this class.

Do you have any additional comments or suggestions? (Use the back if you need it.....)

I've enjoyed this class.
What was your favorite lab and why?

Buffer overflow. Very CS-oriented and since I'm CS, interesting to me.

What was your least favorite lab and why?

Wireless. Too many equipment failures.

What can be done to improve the labs?

Better TA support.

Are there any topics in the course that you think should either not be covered or that we covered too much or too little? Please be specific.

More windows vulnerabilities.

Should this class have written tests? If so over what material?

Tests may help force group members to work together and make sure that they understand all aspects of the labs. Test should be over the theory behind the labs.

What could have been done to make your education experience in ECE4112 better?

Decrease the length of the labs but increase depth.

Do you have any additional comments or suggestions? (Use the back if you need it.....)

I liked this class. The hands-on approach is different from all other classes I've taken at Tech. It gives a good overview of the Info Sec field. The professor is nice, approachable, and his lectures are not boring. He doesn't waste your time. Overall a great class.
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What was your favorite lab and why?
Better overview - good information about why buffer overflows are potent / important, provides information about how to avoid them.

What was your least favorite lab and why?
Wireless lab - much of the lab didn't work, and we spent a while finding that out...

What can be done to improve the labs?
There should be more emphasis on the theory behind the exploits and the means of preventing them - too much of the labs seem to be "script kiddie" applications of already available programs.

Are there any topics in the course that you think should either not be covered or that we covered too much or too little? Please be specific.
I think that there should be more emphasis on secure coding practices to prevent attacks from taking place.

Should this class have written tests? If so over what material?

Probably not necessary.

What could have been done to make your education experience in ECE4112 better?

Do you have any additional comments or suggestions? (Use the back if you need it…..)
What was your favorite lab and why?

Password cracking and buffer over flow.

Very hands-on lab and great explanations.

What was your least favorite lab and why?

Few of the labs took too long. Wireless lab didn't happen and first lab took hours downloading OS images.

What can be done to improve the labs?

Less number of tools, more indepth.

Are there any topics in the course that you think should either not be covered or that we covered too much or too little? Please be specific.

I felt like the class didn't go into enough details about how to defend. I feel like I've learned many ways to attack, on the other hand.

Should this class have written tests? If so over what material?

No.

What could have been done to make your education experience in ECE4112 better?

I really liked the textbook and how it enhanced/support the labs. If you could have a semi-textbook like reading material along with the labs it would be awesome.

Do you have any additional comments or suggestions? (Use the back if you need it.....)

I'm not talking about lecture slides but rather reading material that is easy to understand and covers the material in great detail.
What was your favorite lab and why?
- Buffer overflows, actual things (that work effectively)
- was neat.

What was your least favorite lab and why?
- Wireless, because I got very frustrated when things don't work.

What can be done to improve the labs?
- More current exploits/softwar.

Are there any topics in the course that you think should either not be covered or that we covered too much or too little? Please be specific.
- I think databases are very important
- More databases.

Should this class have written tests? If so over what material?
- No.

What could have been done to make your education experience in ECE4112 better?
- Overall, I learned a lot. Keep improving and rotating in new labs.

Do you have any additional comments or suggestions? (Use the back if you need it.....)
What was your favorite lab and why?

Root kits. They're cool

What was your least favorite lab and why?

Wireless. It didn't work

What can be done to improve the labs?

I think that having 20% of each lab grade dependent on coming up with our own improvements is a bit unreasonable, especially since a final project grade is based on us designing our own.

Are there any topics in the course that you think should either not be covered or that we covered too much or too little? Please be specific.

Should this class have written tests? If so over what material?

No

What could have been done to make your education experience in ECE4112 better?

Do you have any additional comments or suggestions? (Use the back if you need it.....)
What was your favorite lab and why?

The password sniffing/man-in-the-middle lab was very interesting.

What was your least favorite lab and why?

First lab because of all the waiting for images to transfer.

What can be done to improve the labs?

Double check the setup of the labs by having them do the lab first. I.E. wireless lab.

Are there any topics in the course that you think should either not be covered or that we covered too much or too little? Please be specific.

The BlackICE firewall section on the firewall lab (lab 8) was unnecessary because we didn't do anything with it.

Should this class have written tests? If so over what material?

No. It would be difficult to find out what material to cover. If you did test, it should be out of the book.

What could have been done to make your education experience in ECE4112 better?

I think the class was set up well.

Do you have any additional comments or suggestions? (Use the back if you need it.....)
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What was your favorite lab and why?

Buffer overflow is a very common attack method. Good to know how it is done.

What was your least favorite lab and why?

Lab 1 - too unnecessarily too long

What can be done to improve the labs?

Maybe less labs which are longer

Seemed too congested

Are there any topics in the course that you think should either not be covered or that we covered too much or too little? Please be specific.

Should this class have written tests? If so over what material?

What could have been done to make your education experience in ECE4112 better?

More time

Do you have any additional comments or suggestions? (Use the back if you need it.....)
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What was your favorite lab and why?

The one where we used etreal G network mappers. It was an early lab & got me excited about what was possible if I didn't even know about.

What was your least favorite lab and why?

What can be done to improve the labs?

I've made notes in each lab I had turned in.

Are there any topics in the course that you think should either not be covered or that we covered too much or too little? Please be specific.

Should this class have written tests? If so over what material?

YEA, The work involved is less of information than labs & fine.

What could have been done to make your education experience in ECE4112 better?

It becomes hard to do later labs as more shared computers are taken off the mini-works in the lab to use for specialized uses in 4110, etc. It's annoying to make a special trip to the lab only to find there isn't an available machine.

Do you have any additional comments or suggestions? (Use the back if you need it.....)
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What was your favorite lab and why?
wireless, this was the topic I was most interested in.

What was your least favorite lab and why?
N/A

What can be done to improve the labs?
some were too lengthy

Are there any topics in the course that you think should either not be covered or that we covered too much or too little? Please be specific.
N/A

Should this class have written tests? If so over what material?
No.

What could have been done to make your education experience in ECE4112 better?
N/A

Do you have any additional comments or suggestions? (Use the back if you need it.....)
Great class. It really brings to life many of the security topics mentioned so often. It was a bit annoying sometimes to always have to download the OS images from the NAS.
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(Please also do the official: www.coursesurvey.gatech.edu/login.cfm ) Please help me to improve future offerings of this class.

What was your favorite lab and why?
web security

What was your least favorite lab and why?
wireless lab b/c it was hard to get to work correctly.

What can be done to improve the labs?
more info

Are there any topics in the course that you think should either not be covered or that we covered too much or too little? Please be specific.
no, good mix

Should this class have written tests? If so over what material?
no

What could have been done to make your education experience in ECE4112 better?
fine

Do you have any additional comments or suggestions? (Use the back if you need it.....)
ECE4112 Internetwork Security
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What was your favorite lab and why?

firewalls, got to play w/ cisco hardware,
buff overf low was also good.

What was your least favorite lab and why?

wireless e/c not much worked,
first lab was pretty bad with all waiting for
image transfer.

What can be done to improve the labs?

I'd like to see more hardware stuff, a check point firewall, spam gateway box etc.

Are there any topics in the course that you think should either not be covered or that we covered too much or too little? Please be specific.

spam not really covered, or spyware that much.

Should this class have written tests? If so over what material?

No

What could have been done to make your education experience in ECE4112 better?

labs should build on each other more, maybe a final lab where you actually attack a server to try and gain access.

Do you have any additional comments or suggestions? (Use the back if you need it....)

Good class, like hands-on approach.
feels free to experiment with interesting subjects, new tools etc.
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What was your favorite lab and why?

Any of the shorter labs, mainly because it usually meant information was clear & concise, didn't have to waste time doing things os

What was your least favorite lab and why?
The first lab - simple material but wastes a lot of time copying files

What can be done to improve the labs?
Have TAs make sure everything works (perhaps quick redo of lab)

Are there any topics in the course that you think should either not be covered or that we covered too much or too little? Please be specific.

Class has good coverage of a variety of materials

Depth is good enough for basic knowledge or further resources available

Should this class have written tests? If so over what material?

Perhaps just to ensure/recap that students have learned what these basics of what is taught.

What could have been done to make your education experience in ECE4112 better?

Working labs that don't break.

Do you have any additional comments or suggestions? (Use the back if you need it.....)
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What was your favorite lab and why?
buffer over-flow, moderately complex, non-trivial, not just script kiddie command

What was your least favorite lab and why?
wireless, it was broken

What can be done to improve the labs?
less script kiddie
less hand-holding
more detail

Are there any topics in the course that you think should either not be covered or that we covered too much or too little? Please be specific.
mast covered too shallowly
remove 1 or 2 labs (not sure which) + add more detail

Should this class have written tests? If so over what material?
yes, the textbook & inference based on understanding of topics

What could have been done to make your education experience in ECE4112 better?
less emphasis on having students write the labs
more emphasis on maximizing student learning

Do you have any additional comments or suggestions? (Use the back if you need it....)
final project is hard since we have to come up with a whole new category of fake weight each lab additions more heavily
What was your favorite lab and why?
Firewall lab - helped me to secure it at work & home

What was your least favorite lab and why?
Worm lab - extremely long

What can be done to improve the labs?
Make sure they don't take over 3 hours, or in the last lab, make sure we don't waste time if it shouldn't work

Are there any topics in the course that you think should either not be covered or that we covered too much or too little? Please be specific.

Should this class have written tests? If so over what material?
No, I like the format - very hands on

What could have been done to make your education experience in ECE4112 better?

Do you have any additional comments or suggestions? (Use the back if you need it.....)
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What was your favorite lab and why?

My favorite lab was Trojans and Worms lab. It was interesting to see how common exploits can cripple a system.

What was your least favorite lab and why?

Wireless lab, parts 3 & 4 did not work for all people.

What can be done to improve the labs?

Some labs are too long, too mundane and boring (only when multiple cover same topic).

Are there any topics in the course that you think should either not be covered or that we covered too much or too little? Please be specific.

Should this class have written tests? If so over what material?

No. Final Project is sufficient enough.

What could have been done to make your education experience in ECE4112 better?

Do you have any additional comments or suggestions? (Use the back if you need it.....)
What was your favorite lab and why?
Buffer overflows. It was very thorough and I got a lot out of it.

What was your least favorite lab and why?
Firewalls lab and the VPN lab. Both labs were hard to set up and they both didn’t seem to work right.

What can be done to improve the labs?
Post the labs 2 weeks in advance so we have time to read ahead if we want.

Are there any topics in the course that you think should either not be covered or that we covered too much or too little? Please be specific.
I think the VPN lab should be replaced by some other topic. It seemed pointless to me.

Should this class have written tests? If so over what material?
No tests, but I think there should be quizzes every 2 weeks on the material from “Counter Hack” or another book.

What could have been done to make your education experience in ECE4112 better?
- The motivational lectures could have been a little more detailed
- I think that adding very small programming assignments to the labs would be very helpful. This would make the course even more hands on.

Do you have any additional comments or suggestions? (Use the back if you need it....)
What was your favorite lab and why?

they were pretty interesting.

What was your least favorite lab and why?

What can be done to improve the labs?

announce some mistakes TAs should be informed by students.

Are there any topics in the course that you think should either not be covered or that we covered too much or too little? Please be specific.

really difficult to choose "they are all important and "trendy"

Should this class have written tests? If so over what material?

would be too difficult to prepare the exam, since we covered so many topics

What could have been done to make your education experience in ECE4112 better?

you already "did" from the lab design

Do you have any additional comments or suggestions? (Use the back if you need it....)
What was your favorite lab and why?

- Reruns - they were straightforward and nice and easy to understand.
- Trojan 2 bound: Very same as same.

What was your least favorite lab and why?

- Cisco PIX firewall - 1. P. Linux chaining - Reason: Too long.

What can be done to improve the labs?

- Some directions/instructions were outdated/incorrect - Fixing them could save a lot of time. Also lab setup sometimes were made quite incorrect.

Are there any topics in the course that you think should either not be covered or that we covered too much or too little? Please be specific.

No

Should this class have written tests? If so over what material?

No - I think labs are good enough. Material is too broad to cover in test.

What could have been done to make your education experience in ECE4112 better?

Perhaps if some labs were shorter. Some were so long, I just wanted to finish them rather than learn the material behind it.

Do you have any additional comments or suggestions? (Use the back if you need it....)

I like the web security (Grp 30 & 33) that would be a good lab to include. Also some cryptography would be nice.
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What was your favorite lab and why?

**LEAST FAVORITE**

**NETWORKS / FORENSICS** - TERRIBLE TO EXAMINE TRAFFIC LOGS. QUITE LAME.

**MOST FAVORITE**

What was your favorite lab and why?

**TROJANS / BACKDOORS** - MOST PRACTICAL / HANDS ON.

What can be done to improve the labs?

EDIT TO REMOVE TYPOS. ENSURE ALL SETUPS/SCENARIOS WORK.

Are there any topics in the course that you think should either not be covered or that we covered too much or too little? Please be specific.

**CRYPTOGRAPHY & WEB SEC SHOULD BE COVERED.**

Should this class have written tests? If so over what material?

**NO.**

What could have been done to make your education experience in ECE4112 better?

Do you have any additional comments or suggestions? (Use the back if you need it.....)
What was your favorite lab and why?

Stack Attack lab. Covered a lot of material was very challenging.

What was your least favorite lab and why?

Viruses lab. It was too short. Didn’t contain enough information.

What can be done to improve the labs?

Make sure configurations work on newer equipment.

Are there any topics in the course that you think should either not be covered or that we covered too much or too little? Please be specific.

Didn’t cover cryptography enough. Would have liked to use PGP or something key sharing system for secure email.

Should this class have written tests? If so over what material?

No

What could have been done to make your education experience in ECE4112 better?

More analysis of the theory side of things.

Do you have any additional comments or suggestions? (Use the back if you need it.....)