# Tech Training: Recap 1

Here is a compilation of the major training topics covered in *the first half of the term,* by every new CS tech. Know that this resource is a brief overview of each topic and is not extensively detailed. You are tested on this information. While you are not expected to memorize all of this info, you are expected to be familiar with the basics and know where to find the details.

## INTRODUCTIONS

### Intro to Client Services

- You work FOR Client Services (our nickname is 4040 since that's our phone number. It's okay to use 4040 with internal clients). You work IN the Technology & Learning Connection (branded as T&LC or Connection internally).
- T&LC is a co-location of several groups. They partner with us to provide service in a single location.
- We are responsible for the technology inside the Connection.
- We run a Generalist/Specialist support model. We solve what we can and escalate what we cannot.
- Knowing who you are trying to help is so important, we call it **Rule #1**:
  - Identify the Client:
    - **Who** – What is their client role?
    - **What** – What type of device? Who owns it?
    - **Where** – Are they on-campus or off-campus? Wired/wireless?
- We attempt to accomplish **4 Objectives** during every client interaction:
  1. **Validate** –Assure them we can help
  2. **Educate** – Explain what you're doing
  3. **Solve** – Solve the problem. You are not expected to know everything. Use your resources:
     a. **4040 Tech Training Site** - links, links, and more links to technology solutions
     b. **4040 Support Site** - tutorials, utilities, and other resources
     c. **Google** - useful for generic technology issues
     d. **4040connect FAQs** - useful for Taylor-specific technology issues
     e. **Ask** another Tech
  4. **Ticket**
- 4040 has a phone number, email address, and a website. Clients should contact 4040 if they want to speak with a person. 4040connect has an email address and a website. 4040connect is automated software. Clients should contact 4040connect to create or edit a ticket.

### Intro to WhenToWork

- WhenToWork is our scheduling software. Your responsibilities include keeping your work preferences up-to-date, making sure you know and follow your weekly work schedule, and finding a replacement Tech if you cannot work a shift.
- Work preferences are entered every term.
- Weekly schedules are published 10 days ahead and may change from week to week.

### Intro to 4040connect

- We currently use WebHelpDesk and brand it as 4040connect.
- Request Type determines which support team is responsible for the request.
- We are Generalists (Level 1) for many of the Request Types, but not all.

- If we cannot resolve a request, escalate it. Use the Tech Groups tutorial to make sure you have escalated to the proper team.
- When delivering a solution to a client, change the Status to Resolved. Let the client decide if the request is truly Closed.
- Monitor our Group Tickets. They should include all unresolved tickets, not escalated beyond Level 1, with a Request Type we are responsible for.


## RESOURCES:
- Tutorials – Client-based and Tech-based
- Suggested Responses (4040 mailbox)
- Shift Change Journal
- FAQs (4040connect)


## NETWORKING 101:
### IP Addresses: Home vs. Taylor
- Home Network
    - A single router handles five networking functions:
        1. Send/Receive
        2. Routing of packets
        3. Dynamic Host Configuration Protocol (DHCP)
        4. Domain Name System (DNS)
        5. Network Address Translation (NAT)
- Taylor's Network
    - Complications make the simple model unusable
        1. Distance
        2. Volume
        3. Security
    - Solutions
        1. Send/Receive: Delegated to multiple Wireless Access Points across campus
        2. Routing: Each building has its own router and switches
        3. DHCP: Delegated to dedicated DHCP server handling all IP assignments on campus
        4. DNS: Delegated to dedicated DNS server providing name to IP translation (DNS cache)
        5. Taylor's internet router (in Ayres) translates external to internal IP addresses

### Packets
- Packets are a collection of ones and zeroes. They facilitate communication between a switch/router (via wireless access point) and the device.
- Packets include:
        1. Header – source IP, destination IP, packet number (1 of 10, 2 of 10, etc.), type of data (video, HTML)
        2. Payload or Body – actual data being transmitted
        3. Trailer or Footer – error correction

*Users: Home vs. Taylor*
- Home Network
  - Windows and MacOS have the ability to track:
    1. Usernames (local)
    2. Passwords
    3. Permissions
- Taylor's Network
  - Domain Controller: Active Directory
    1. Usernames (domain)
    2. Passwords
    3. Permissions
    4. Client Role
    5. Policies

   **\*Taylor's Domain Name is CAMPUS**

Full tutorial:  http://4040.taylor.edu/tutorials/techtraining/tt_Networking101.pdf


## PROJECTS – BASIC
Basic projects include black & white printing, color printing, laminating, and binding.

- Project requests arrive in various ways including walkup and email/phone to 4040 or 4444.
- Documents provided by the client should be moved to the _TLC Projects folder on our CS$ share.
- When resolving the ticket, follow the template in the 3-ring binder at Station 3 for the Resolution Note. Using the exact verbiage of each charge and project type is important. Check Out Desk personnel rely on us to get this right.

Full tutorial:  http://4040.taylor.edu/tutorials/techtraining/tt_ProjectsBasic.pdf


## TUCAN
Taylor's DHCP server assigns IP addresses to all devices connected to Taylor's network. However, DHCP is incapable of distinguishing client role, so it is unable to distinguish guest-owned devices from student-owned devices or university-owned devices. In order to assign guest devices to the Guest VLAN and student devices to the Student VLAN, DHCP needs help from a Network Access Control (NAC) device which IT brands as the TUCAN Device Registration System.

At this writing, Taylor uses a program called PacketFence to handle device registration. When a new device connects to Taylor's network, PacketFence instructs DHCP to assign a 10.10 address (Registration). When the device attempts to access the internet, Taylor switches (based on the source IP of 10.10) redirects the device to PacketFence which returns the TUCAN Registration page. Once registration is completed, PacketFence directs DHCP to assign an IP address from the proper VLAN (Guest, Student, University, etc.)

**IMPORTANT: Check the IP Address. Always… check the IP. The IP address will tell you where the device is in the registration process.**

Full tutorial:  http://4040.taylor.edu/tutorials/tucanregistration/TucanRegistration.pdf

## MAC BASICS
Taylor-owned Macs can be bound (joined) to the CAMPUS domain. Due to the volume of content, please review our full tutorial at http://4040.taylor.edu/tutorials/techtraining/tt_MacBasics.pdf


## WEBPRINT
In order to successfully print, three components are required. At Taylor, one additional component is required:
1. Document
2. Drivers (to translate the document)
3. Connection (USB, network, etc.) to the printer
4. Accounting (currently PaperCut)

Taylor-owned computers have all four components and are able to communicate directly to Taylor's PRINT server which then communicates with Taylor-owned, networked printers. Have clients using Taylor-owned computers select File > Print inside whatever software they're using.

Personally-owned computers do not have access to drivers nor do they have a direct connection with Taylor's PRINT server. As a workaround, IT has provided WebPrint. WebPrint is a service that makes it possible for students to print from their personally-owned computers to Taylor printers.

WebPrint is a handy workaround but has limitations. If it doesn't fit the client's needs, have them print from a Taylor-owned computer.

Full tutorial:  http://4040.taylor.edu/tutorials/printing/WebPrint.pdf
For troubleshooting issues refer to http://4040.taylor.edu/tutorials/techtraining/tt_Printing.pdf


## MALWARE
A malware removal checklist is used each time a client comes in with malware, with different steps depending on whether the PC is Windows or Mac and if it is personally- or Taylor-owned. Always start at the top of the checklist and work your way down. Only initial a step once that step is complete. Use the reverse side of the checklist for additional work.

***Programs We Use:***
- CCleaner
  - Free for all uses
  - CLEANER: deletes temporary and other unnecessary files
  - REGISTRY: removes orphaned entries from the Windows Registry
- System Center Endpoint Protection
  - Licensed by Taylor for use on Taylor-owned, Windows computers
  - Not for use on personally-owned
- Malwarebytes
  - Free for personal use, Windows and Mac
  - Taylor owns 2 licenses for use on Taylor-owned computers. Must be uninstalled from Taylor-owned after use
- SuperAntiSpyware

- o Free for personal use only. Not for use on Taylor-owned.
- Various AV programs for Mac
  - o Make sure they're free for personal use. Most are not free for business use.

The tutorial listed below provides definitions for the various types of malware along with malware prevention, detection, and removal instructions.

Full tutorial**: http://4040.taylor.edu/tutorials/techtraining/tt_Malware.pdf**

## ISOLATION

Devices are isolated for multiple reasons. The 2 most common are:
- Malware
- Peer-to-Peer

In both cases, locate the email from packetfence@taylor.edu that was sent to the student. The email explains which device caused trouble and gives the client instructions for getting their device(s) out of Isolation. Always start with the email.

### *Malware*
- We can help. Walk the client through the Malware Removal Checklist
- Guide the client through the remediation steps laid out in the email

### *Peer-to-Peer*
- We cannot help. This is a serious breach, and the client must work through the remediation steps laid out in the email.

Full tutorial: **http://4040.taylor.edu/tutorials/techtraining/tt_NetworkIsolation.pdf**

## HARDWARE DROPOFF / PICKUP

This process is used when clients drop off Taylor-owned equipment which must be escalated to IT. Personally owned equipment is never escalated to IT.

### *Client Drop Off*
1. Identify the client
2. Inventory
3. Toe tag
4. Update/Create the ticket
5. Stow hardware on Workroom Pickup shelf inside Help Desk
6. Notify Technology Services

### *Client Pick Up*
1. Retrieve the device
2. Ask client to log in
3. Verify they have everything they need

4. Update the ticket

Full tutorial: **http://4040.taylor.edu/tutorials/techtraining/tt_HardwareDropoffPickup.pdf**