

Syllabus:

Background:

- Android is an operating system, i.e. a program that does all the background tasks on your device and coordinates all the other apps you may want to run.
- Android is generally used with touchscreen devices (phones and tablets).
- It is “developed commercially” by Google but is open source, i.e. the code is publicly available.
- It is possible to use Android without a Google account, but it would be difficult.
- Sources of variability: different android versions, different manufacturers of the hardware (Google, Samsung, LG, Alcatel, etc.).
- Unlike iOS which is just for iPhones and iPads.
- I’ll be presenting on a Samsung Galaxy Tab A running Android 10.

First Steps:

- After charging for a few hours, hold the power button for around 4 seconds or until you see the screen change.
- When first turning it on, you have to select your language, time and date, and sign into a google account. If you don’t have one, you can create one. You may also be prompted to connect to wifi or choose whether to back up to Google Drive.
- Otherwise, wait for the date and time to come up, then drag your finger across the screen. This takes you to the home page.

Basic Interface:

- How to power off/restart. Volume buttons.
- When the screen times out, just tap on the power button (don’t hold it for long).
- Home page, app icons, favorites tray.
- Tap an app to open it. Beware: don’t press too long and don’t move your finger laterally while it is in contact with the screen. If you have trouble with this you may want to buy a stylus (about \$20 from Amazon).
- Some icons are actually folders (e.g. the “Google” icon). Tap to go into the folder.
- Notifications area at the top left, status area at the top right.
- Google Now bar: perform searches or dictate voice commands.
- Swipe R to L to see the secondary home screen.
- Swipe L to R to see Bixby (an alternative voice command system).
- Swipe up from the bottom to see all currently installed apps.
- Swipe down from the top to see the Notifications Panel and clear them. You can then swipe down again to see some important settings.
- Three main navigation buttons: home, back, currently running apps (allows you to see what’s open, close apps, or jump between apps). Note that the home and back buttons don’t actually close the app you were in.

Android gestures:

- Tap (default action)

- Tap and hold (see other options)
- Drag to scroll up/down. Notice it's the reverse of what you might think.
- Swipe L or R to flip through things, e.g. pictures in Gallery.
- Pinch to zoom in/out (in Gallery you can also double tap to zoom in).
- Auto-rotate (and how to toggle it).

Connectivity:

- Turn on wifi or use data from a mobile carrier (e.g. AT&T, TMobile).
- Note that using data may have a limit.

Phone

- If you don't have a data connection, look into Skype or Google Voice.

Messages

- Explain how the keyboard pop-up works. Sometimes you will need to click on a field (box) for the keyboard to come up. Click the x key for backspace, the English bar for space, the !#1 to bring up the alternate keyboard. Just above the keyboard are where suggested completions will appear.

Contacts/People

- Probably has your google contacts if you set up your device with google.
- Can create new contacts here or in your email or messaging apps.

Email

- The Gmail app is preinstalled
- If you don't have Gmail, install the associated app or use a generic email app, which may come pre-installed.
- Basics: inbox, opening up emails, replying, composing your own emails.
- Adding another account through settings.

Chrome

- General purpose web browser, type in URLs or just use google search.

Camera

- If you log into google, you will probably find your photos uploaded to Google Photos.
- This is good: it means your photos are backed up to the cloud and hence far more secure.
- If they do not appear to be backed up you can check that "Backup and Sync" is turned on inside the Google Photos app settings.

Google Play Store

- Many apps are free. Some are free but have in-app purchases.
- Be aware that apps take up space on your device.
- Search using general keywords or particular app names.

- Be wary: most apps are perfectly legitimate, but there can very occasionally be spyware/malware. Check the ratings, the number of downloads, and the permissions (About this App > See More).
- Remove apps in settings > apps or just tap and hold an app until an “uninstall” option appears.
- Some interesting apps: Spotify for music and podcasts, Duolingo for learning languages, LeafSnap for plant identification.
- How to add apps to the home screen or remove them.

Settings

- Notifications can be set for particular apps, or use do not disturb to silence most notifications.
- Security:
 - Add a screen lock.
 - Update android whenever it prompts you to.
 - Settings > Google > Security > Find My Device. Make sure it is on. Allows you to find or lock or erase your device.
 - Avoid public wifi for sensitive tasks like online banking.
- Device Maintenance:
 - Reduce brightness to save your battery, or turn on “power mode”.
 - Quit an app using the “recent apps” button. Or go to Settings > Apps > Force Stop.
 - Go to Settings > Device Care to optimize performance.
- Take a screenshot by holding down the power button and volume-down button simultaneously.
- Blue light filter