Task:

- Take your own fingerprints; all ten digits. Sample only has five as this was 2.5 years ago.
- Make sure you take it from below the crease to the tip, and it is clean and clear.
- Affix them to the paper or card stock provided, see sample.
- Label the finger correctly and print type.
- Then, classify a print. Either draw ONE print (try to make it like your own, and then improvise the rest) so that it is 30x larger or use one of the Print Analysis Samples. Marks vary depending on choice.
- When classifying, ensure you have a VARIETY of markings, and that you label using the alphabet, a minimum of 10 unique points.
- In addition, clearly mark (not one of the points) where the DELTA is located, and identify the finger, hand, and loop type.

- Analyse and label your selected print as best as you can, ensuring that you identify 10 unique points. Make sure you use a good variety of points (add a few to show your skills).

See rubric. **Due Friday, November 27, 2015**

**(in class rub and adhere day is November 19)**

**How to take your prints:**

**In class fingerprinting technique:**

- To take a print impression, clean the fingers well.
- Then grab a finger, and roll and **rub the finger base in pencil dust** to cover the entire fingerprint area.
- Then, take a piece of **transparent tape** and carefully tear off a piece without dirtying the surface, and **apply this to the finger**.
- Gently **peel off the tape and place the tape onto the proper spot** on your fingerprint card. Each finger has a unique name in the fingerprinting world. Ensure prints are in order.
- Make sure that label your print properly.
- Google it and watch the you tube videos, as they are great too.
- How can we do fingerprinting in class? (2 minutes)
  - [http://www.youtube.com/watch?v=UA3nmv5k4dU](http://www.youtube.com/watch?v=UA3nmv5k4dU) – quick and simple
  - [http://www.youtube.com/watch?v=6SkLxUwLaSk](http://www.youtube.com/watch?v=6SkLxUwLaSk) – cheesy but another visual
<table>
<thead>
<tr>
<th>Forensics Evaluation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Name:</td>
</tr>
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</table>

<table>
<thead>
<tr>
<th>Criminal Investigation C2</th>
<th>Below</th>
<th>Level 1</th>
<th>Level 2</th>
<th>Level 3</th>
<th>Level 4</th>
</tr>
</thead>
<tbody>
<tr>
<td>Knowledge of fingerprinting terms – language used in labelling. Correct.</td>
<td>Not suitable for forensic purposes.</td>
<td>Minimal language used; some creative new words made up</td>
<td>Moderate or some forensic language used in labelling</td>
<td>Good use of language and labelling</td>
<td>Full use of new language and labelling taught</td>
</tr>
<tr>
<td>Ability to correctly identify print markings; ability to understand the importance of a variety of markings. <strong>10 points vary well, are labelled according to notes, A-J, clean lines, legend.</strong></td>
<td>Not suitable for forensic purposes.</td>
<td>6 marking points labelled. 4 labelled correctly. Minimal variety used.</td>
<td>7 marking points labelled. 6 labelled correctly. Some variety used.</td>
<td>8 marking points labelled. 8 labelled correctly. Good variety used.</td>
<td>10 marking points labelled. 10 labelled correctly. Large variety used.</td>
</tr>
<tr>
<td><strong>Enlarged print</strong> – drawing of the print or use of a pre-printed print. Integration into assignment.</td>
<td>None done</td>
<td>sloppy</td>
<td>Pre print used, but no additional lines added to increase value</td>
<td>Hand drawn but a bit sloppy. Or use of pre-printed print with some additions.</td>
<td>Hand drawn – done well, all lines are clear.</td>
</tr>
<tr>
<td>Application of fingerprinting techniques (<strong>rub and adhere</strong>). Neatness and care. All ten fingers done. Even, clean, placed correctly.</td>
<td>Not suitable for forensic purposes.</td>
<td>Barely acceptable print for identification purposes.</td>
<td>Moderate clarity, some smudging or dirty tape</td>
<td>Good clarity, all ridges quite visible.</td>
<td>Extraordinary clarity of the print and alignment</td>
</tr>
<tr>
<td>Application of format <strong>provided</strong> for ease of comprehension and comparison – neat and organized. <strong>Follows the sample:</strong> last name is very large at the top left corner, date is on the bottom left corner, prints are cut out and fastened neatly, enlarged specimen is marked, adhered, outlined.</td>
<td>Not suitable for forensic purposes.</td>
<td>Format has been minimally applied. Many elements missing or poorly done overall.</td>
<td>Doesn’t look as neat and well applied as the sample, yet it can still be used well.</td>
<td>Matches the application of the sample. Adheres to specification s. Very legible.</td>
<td>Formal looks much better than sample. Very professional application used.</td>
</tr>
<tr>
<td>Neatness and care taken – use of background, all edges glued neatly, neat printing, very suitable for analysis.</td>
<td>Did your little sister do this for you... this is pretty messy.</td>
<td>This is passable but I really think it looks rushed, or like your bag ate it a bit.</td>
<td>This is okay. It looks good but I see very limited extras to make it prettier.</td>
<td>This is very nice and shows you took care indeed.</td>
<td>This is gorgeous. Wow this took a long time.</td>
</tr>
<tr>
<td>On time</td>
<td>3D (after which it is a zero)</td>
<td>2 D</td>
<td>1 D</td>
<td>SD</td>
<td>OT</td>
</tr>
</tbody>
</table>
**Forensic Science**

**Goal of a forensic unit:**
To identifying individuals and analyzing forensic evidence in a professional, objective and efficient manner.

**Type of work covered in forensics:**
- fingerprinting
- artists and skull reconstruction
- collect physical evidence from a crime
- take crime scene photographs
- analyze handwriting
- draw crime scene plans
- ballistics

**Crime Scene Forensic Plan**
1. secure scene and rope off area
2. establish entry point to limit contamination
3. take photographs and draw out the floor plan
4. place number labels on possible evidence to collect (add to drawing, & record details in a chart)
5. dust for prints, extract prints, analyze them for a possible match against exemplars on file
6. collect evidence in sealed bags and label for lab analysis

**Fingerprints - three main types:**
1. **Exemplar** (ones taken at the police station); and
2. **Latent** (ones left behind on objects that are almost invisible); and
3. **Patent** (ones left behind by blood, or dye – they are quite visible).

**Classifying**
Before computers could do it, people had to examine and record key elements on a fingerprint that would assure a jury that the fingerprint was unique to a certain individual. They use a ten-print classification system (the Henry system).

**There are three basic fingerprint patterns: Loop, Whorl, and Arch.**
Additionally, they can also be sub-grouped into tented arches and plain arches, radial or ulnar, etc.
**Fingerprint Markings**

**Ridge Dots - small**
An isolated ridge unit whose length approximates its width in size

**Short Ridges (Islands) - larger**
Friction ridges of varying lengths

**Enclosures (Lakes)**
A single friction ridge that splits and rejoins after a short course and continues as a single friction ridge

**Bifurcations (River Splits)**
The point at which one friction ridge divides into two friction ridges

- Single Bifurcation
- Double Bifurcation
- Opposed Bifurcation

**Trifurcations (River 3 split)**
The point at which one friction ridge divides into three friction ridges
**Ending Ridge (End)**

A single friction ridge that terminates within the friction ridge structure

**Ridge Crossing**

A point where two ridge units intersect

**Spurs (Hooks)**

A bifurcation with one short ridge branching off a longer ridge

**Bridges**

A connecting friction ridge between parallel running ridges, generally right angles

See slides for more notes on markings.
Print Analysis Sample 1.