**ESS 431 PRINCIPLES OF GLACIOLOGY**

**ESS 505 THE CRYOSPHERE**

**Lecture 03 – Physical Properties of Ice**

*Due Wednesday, October 3 2018, at start of class*

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| Marshall, S., 2012. *The Cryosphere.* Chapter 2.  Runnels, L.K., 1966. Ice. *Scientific American*, Dec 1966, 118–126. |

1. What is a “triple-point”?
2. What is “albedo? How does it vary as a function of grain size in snow?
3. How does charge conduction in ice differ from charge conduction in other semiconductors?
4. On a single axis, sketch the density of H20 as a function of temperature, assuming everything below 0°C is ice and everything above 0°C is water. Next to this plot, sketch and label the bond angle for an H20 molecule in ice and an H20 molecule in water. How do these sketches help explain the density of water from 0°C – 4°C?