

November 11, 2015
MSE 2101 topics

- Artificial life
- The top-down (Venter) and the bottom-up (Szostak) approach
- *The ethics of creating life*
- Environmental requirements for life:
 - building blocks
 - life uses 25 out of 92 elements, main 4 are HCNO
 - condensation allows formation
 - where do organic compounds come from on Earth?
 - need atmosphere and oceans?
 - energy
 - photosynthesis and the inverse square law
 - chemical reactions
 - liquid
 - mobility, transport, metabolism
 - water, liquid rock, ammonia, methane, ethane?
- So what is so special about water?
 - high temperature and large span for liquid phase
 - freezing anomaly
 - molecular polarity
- Bottom line on searching for life elsewhere?