

*Each 6.1800 lecture will come with an outline. You can fill this in during lecture, after lecture, or not at all — it's entirely up to you how you use it. The goal of these outlines is to help you understand the main points that you should be taking away from each lecture. In some cases we will also include examples of things you should be able to do after each lecture.*

*In the past, these outlines have proved to be an effective tool for studying for the exams. Note that the outlines are **not exhaustive**; there will be topics and nuances in lecture that aren't captured by the outline.*

## **Lecture 06: OS Structure**

- Why might we want to run multiple operating systems on the same physical machine?
- What is the role of a virtual machine monitor (VMM)?
- What does “trap and emulate” mean?
- How does the VMM handle virtual memory for guest OSes?
- How does the VMM deal with the U/K bit for guest OSes?
- *Why* do VMMs have to be involved with both of these things (virtual memory, U/K bit)?  
Another way to ask this is: why doesn't the guest OS just work within the VMM intercepting anything?
- What is a monolithic kernel? A microkernel? What are the differences?
- Many OSes are monolithic kernels. Why?