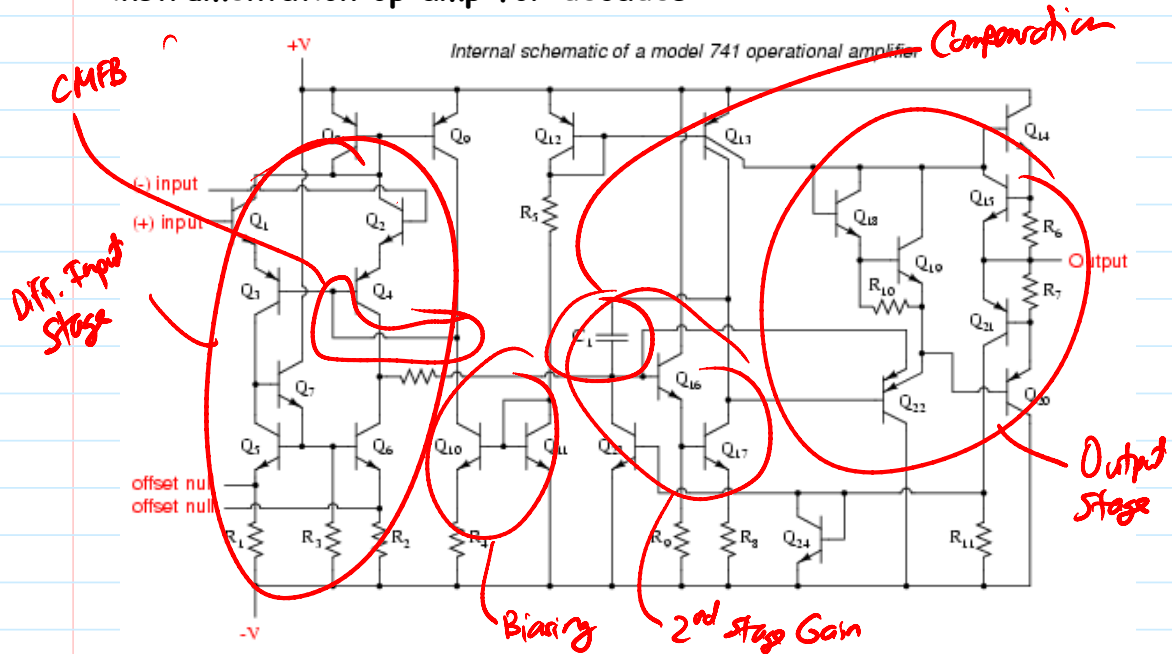
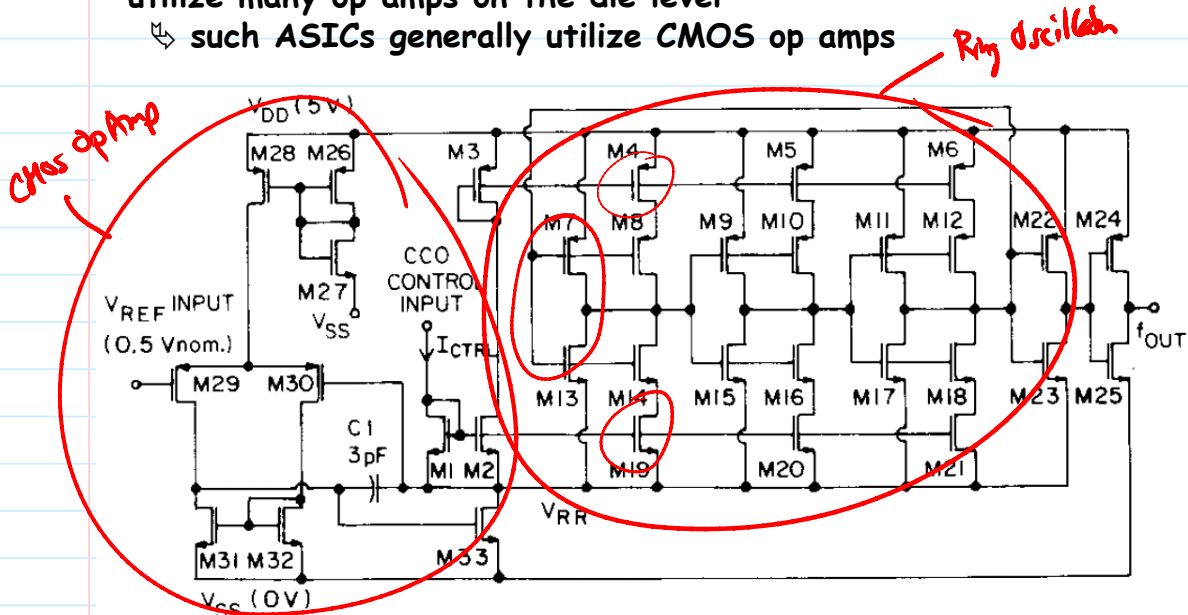




- e.g., the 741 op amp, which has been a workhorse instrumentation op amp for decades

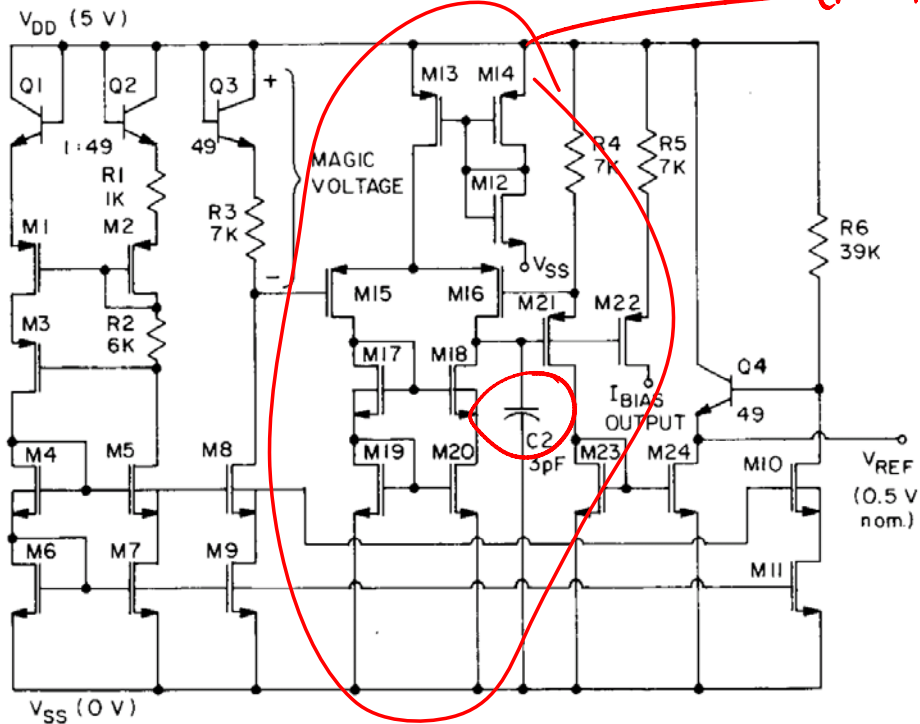


- Today, application specific integrated circuits (ASICs) for mixed analog/digital signal applications (e.g., A/D converters) utilize many op amps on the die level
- ↳ such ASICs generally utilize CMOS op amps



- Below: bandgap reference using a CMOS op amp

*CMOS Op Amp*



- Again, this course will focus mainly on the innards of op amps
- Focus: CMOS, with some BJT coverage so you can work with practical board-level circuits, as well
- The first step towards analyzing and designing op amps is to understand the transistor technologies upon which they are based