

DAILY UPDATE: MATH 121: COMMUTATIVE ALGEBRA (SPRING 2026)

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1. WEEK 1

1.1. **Tuesday, March 31, 2026.** After going over the syllabus we reviewed the basics of ring theory: rings, ideals, ring homomorphisms, units, zerodivisors, kernels, and images, etc. We focussed on four main examples: i) the ring of integers \mathbb{Z} , ii) the polynomial ring $\mathbb{C}[x_0, \dots, x_n]$, iii) the ring of formal power series $R[[t]]$, and 4) the ring of functions on a “geometric” space $X \in \text{Hom}(X, \mathbb{R})$. Please read Chapter 0 of Eisenbud or Reid, and Section 1.1 of Hochster.

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