Planning Page for November 16

November-15-10
4:58 PM

✓ 1. Finish UFDs

✓ 2. How show UFD? Norm ⇒ "PID" ⇒ UFD

- ✓ a. Euclidean norms, $\mathbb{Z}$, $F[x]$.
- ✓ b. Norm ⇒ "PID"
- ✓ c. In a PID, a prime ideal is maximal.
- ✓ d. PID ⇒ UFD
- ✓ e. The Euclidean Algorithm
- ✓ f. PID ⇒ Dedekind-Hasse norm.

3. Modules: Ex 1: Abelian groups.

Ex 2: $T: V \to V$

4. Isomorphism Theorems.

After: $\mathbb{Z}^n \neq \mathbb{Z}^m$ by "tensoring with $\mathbb{Q}$"

- a. Rings of Fractions, localizations.
- b. Tensor products.

Examples: $\otimes S^{-1}R$, $\frac{R}{a} \otimes \frac{R}{b} = \frac{R}{gcd(a,b)}$