MATH 314 ASSIGNMENT 7, FALL 2016

Due in class on Friday, March 4

Part 1. Read §4.5 and §5.1–5.3 of Hoffman–Kunze

Part 2. Do and hand in the following problems in Hoffman–Kunze.

- 4.4, problem 4
- 4.5, problems 1, 2
- 5.2, problems 8, 10, 11
- 5.3, problems 4, 8

Part 3. (extra credit) Let E be a subfield of a field F, i.e. E is a subset of F which contains 0 and 1, stable under both addition and multiplication, and the inverse of every non-zero element of E is in E. Let f, g be non-zero elements of the polynomial ring $E[x]$ in one variable x. Prove that every gcd of f and g in $E[x]$ is also a gcd of f and g in $F[x]$.