MATH 696 Reading & Research II: REDUCTIONS AND CORE OF IDEALS

1. BOOK

Prüfer domains by M. Fontana, J. A. Huckaba, and I. J. Papick, Monographs and Textbooks in Pure & Applied Mathematics, Vol. 203. Marcel Dekker, New York, 1997.

2. RESEARCH PAPERS

- J. H. Hays, Reductions of ideals in commutative rings, Trans. Amer. Math. Soc. 177 (**1973**) 51-63.
- J. H. Hays, Reductions of ideals in Prüfer domains, Proc. Amer. Math. Soc. 52 (**1975**) 81-84.
- L. J. Ratliff; D. E. Rush, Two notes on reductions of ideals, Indiana Univ. Math. J. 27 (6) (**1978**) 929-934.
- H.-J. Wang, Core of ideals of Noetherian local rings, Proc. Amer. Math. Soc. 136 (3) (**2008**) 801-807.
- S. Kabbaj; A. Mimouni, Core of ideals in integral domains. Preprint, June **2011**.

3. SYLLABUS

Week	Material	Main
1	General pullbacks	1.1.4, 1.1.5, 1.1.8, 1.1.9
2-3	When I^{-1} is a ring	3.1.1 – 3.1.13
4-5	Divisorial ideals	4.1.1 – 4.1.23
6	When all ideals are divisorial	4.3.1 – 4.3.5
7	Reductions of ideals in commutative rings (1)	ALL
8	Reductions of ideals in commutative rings (2)	. .
9	Reductions of ideals in commutative rings (3)	. .
10	Reductions of ideals in Prüfer domains	. .
11	Two notes on reductions of ideals (1)	. .
12	Two notes on reductions of ideals (2)	. .
13	Core of ideals in integral domains (1)	. .
14	Core of ideals in integral domains (2)	. .
15	Core of ideals in integral domains (3)	. .

4. SEMINAR

- Reductions of ideals in Prüfer domains

5. OPEN QUESTIONS

- Core of ideals in pullbacks
- Core of ideals in trivial ring extensions

6. GRADING POLICY

90-120 minutes presentations (15)	200
Take-home Exam	100
Seminar	50
Research Work on open questions	-