KING FAHD UNIVERSITY OF PETROLEUM AND MINERALS
DEPARTMENT OF MATHEMATICAL SCIENCES
YEAR 2007-08, 1ST TERM

MATH 595 READING AND RESEARCH I
Reductions and Cores of Ideals

1. Papers.

1. D. Rees and J. Sally, General elements and joint reductions, Michigan Math. J. 35 (1988), 241-254
2. C. Huneke and e. Swanson, Cores of Ideals in 2-dimensional regular local rings, Michigan Math J. 42 (1995), 193208
3. A. Corso, C. Polini and B. Ulrich, Core and residual intersections of ideals, Trans. Amer. Math. Soc. 357 (2002), 2579-2594
4. C. Polini and B. Ulrich, A formula for the core of an ideal, Math. Ann. 331 (2005), 487-503

2. Support Book. Cohen-Macaulay Rings, Revised edition by W. Burns and J. Herzog, Cambridge University Press, Cambridge First 1993, Second 1996.

2. Description & Syllabus

Week	Chapter	Material
1	1	General elements and joint Reductions: Introduction & General Results
2	1	Main Theorem
3	1	An extension of the Scoda-Braincon Theorem
4	2	Cores of Ideals in 2-dimensions Regular Local Rings: Generalities
5	2	The Cores of Ideals in 2-dimensions Regular Local Rings, Part I
6	2	The Cores of Ideals in 2-dimensions Regular Local Rings, Part II
7	2	The Cores of Ideals in 2-dimensions Regular Local Rings, Part III
8	2	The Arithmetic of Cores and Adjoints
9	3	Core and Residual intersections of ideals: Residually S2-Ideals, Part I
10	3	Core and Residual intersections of ideals: Residually S2-Ideals, Part II
11	3	Examples
12	3	Symbolic Powers of Ideals and a Conjecture about the core of ideals
13	4	A Formula for the Core of an Ideal: The Canonical Module

14	4	The Case of Analytic Spread One, Part I
15	4	The Case of Analytic Spread One, Part II