

MATH 555 Commutative Algebra – Term 102

1. TEXTBOOK

M. F. Atiyah & I. G. Macdonald, INTRODUCTION TO COMMUTATIVE ALGEBRA, Addison-Wesley, 1969. Paperback edition, Perseus Publishing, December 1994.

Since the content of this book was already taught in Math 595 during Term 092 (as a regular Math 555 Course), the following papers (in commutative algebra) will be studied during the current semester.

2. RESEARCH ARTICLES

- 1- B. Osofsky, Global dimension of commutative rings with linearly ordered ideals
J. London Math. Soc. 44 (1969) 183-185.
- 2- S. Glaz, The weak global dimension of Gaussian rings
Proc. Amer. Math. Soc. 133 (9) (2005) 2507-2513.
- 3- S. Bazzoni, S. Glaz, Gaussian properties of total rings of quotients
J. Algebra 310 (2007) 180-193.
- 4- C. Bakkari, S. Kabbaj, and N. Mahdou, Trivial extensions defined by Prüfer conditions
J. Pure Appl. Algebra 214 (2010) 53–60.
- 5- D. E. Dobbs, On the global dimensions of D+M
Canad. Math. Bull. 18 (5) (1975) 657-660.

3. SYLLABUS

WEEK	MATERIAL
1	Global dimension of commutative rings with linearly ordered ideals (1)
2	Global dimension of commutative rings with linearly ordered ideals (2)
3	The weak global dimension of Gaussian rings (1)
4	The weak global dimension of Gaussian rings (2)
5	The weak global dimension of Gaussian rings (3)
6	Gaussian properties of total rings of quotients (1)
7	Gaussian properties of total rings of quotients (2)
8	Gaussian properties of total rings of quotients (3)
9	Gaussian properties of total rings of quotients (4)
10	Trivial extensions defined by Prüfer conditions (1)
11	Trivial extensions defined by Prüfer conditions (2)
12	Trivial extensions defined by Prüfer conditions (3)
13	Trivial extensions defined by Prüfer conditions (4)
14	On the global dimensions of D+M (1)
15	On the global dimensions of D+M (2)

4. GRADING POLICY

Presentations (15)	150
CARL Seminars (3)	150