

**MATH 726, Homological Algebra, 3 credits, Spring 2009**

MWF 9:00-9:50 AM, Minard Hall 220

INSTRUCTOR: Sean Sather-Wagstaff

OFFICE: Minard Hall 310D

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PHONE: 231-8105

OFFICE HOURS: MWF 10:00–10:50, and by appointment

PREREQUISITE: MATH 421/621

USEFUL WEBPAGES:

Course webpage: <http://math.ndsu.nodak.edu/faculty/ssatherw/sp09/726/>

Instructor webpage: <http://math.ndsu.nodak.edu/faculty/ssatherw/>

Anonymous evaluation form: <http://math.ndsu.nodak.edu/faculty/ssatherw/ssw-eval.html>

Math department webpage: <http://math.ndsu.nodak.edu/>

NDSU webpage: <http://www.ndsu.edu>

NDSU blackboard site: <https://bb.ndsu.nodak.edu/>

NDSU webpage on academic responsibility/conduct: <http://www.ndsu.nodak.edu/policy/335.htm>

TEXT: Course notes will be available on the course website. You may also consider purchasing “An Introduction to Homological Algebra” by Joseph J. Rotman

COURSE DESCRIPTION: An overview of the techniques of homological algebra. Topics will include the following: complexes, homology, Ext, Tor, depth, projective dimension, regular rings, Gorenstein dimension, Gorenstein rings, and Cohen-Macaulay rings.

COURSE GRADES: Student grades are based on biweekly homework assignments, attendance and participation. Weights are summarized in the following table along with grade ranges.

		A	85–100%
		B	70–84.9%
Homework	90%	C	55–69.9%
Attendance and Participation	10%	D	40–54.9%
		F	0–39.9%

I will update your grades throughout the semester at the NDSU Blackboard site.

HOMEWORK: I will assign homework on a biweekly basis. Exercises will be assigned in class on Fridays and solutions will be due at the beginning of class on the Friday two weeks later. Assignments will also be listed on the course webpage. Each section of homework will be worth the same amount. Late homework will only be accepted under extreme circumstances. If you have a conflict with any of the homework due dates, make alternative arrangements with me beforehand.

Students are encouraged to work on assignments in small groups, but each member of the class is required to turn in a neatly written, organized set of solutions. Students will receive no credit for solutions with no work or justification. I reserve the right to deduct points for messy papers. You may even consider using  $\text{\LaTeX}$  to typeset your solutions.

ATTENDANCE: While attendance is not explicitly required, it is worth 10% of your grade. I will take attendance each class period. Officially excused absences will not be counted against you, but you must document such situations with me personally.

COURSE NOTES: I will be typing course notes during the semester. I will periodically update the notes on the course webpage. I will give extra credit to people who find typos in the notes; credit will be given to the first person who tells me about a given typo.

TENTATIVE SCHEDULE:

Martin Luther King Day holiday	Mon 19 Jan
Last day for No Record Drop of classes	Thu 22 Jan, 11:59 PM
President's Day holiday	Mon 16 Feb
Spring Break	Mon 16 Mar to Fri 20 Mar
Holidays	Fri 10 Apr and Mon 13 Apr
Last day to Drop Classes (W)	Fri 24 Apr, 11:59 PM
Classes end	Fri 08 May
Final Exam (possible lecture)	Wed 13 May, 1:00 PM –3:00 PM

ANNOUNCEMENTS: Periodically, I will send course announcements to your ndsu.edu email account. It is your responsibility to check this email account regularly.

INSTRUCTOR FEEDBACK: At the course webpage, there will be a link to an anonymous evaluation form where students can submit comments or suggestions for me at any time during the semester.

ADA STATEMENT The Americans with Disabilities Act requires that reasonable accommodations be provided for students with physical, cognitive, systemic, learning and psychiatric disabilities in order to ensure their equal access to course content. If you have a documented disability and require accommodations, please let your instructor know as soon as possible. For more information, please contact Disability Services at 231-7671 or go to <http://www.ndsu.edu/counseling/disability.shtml>.

ACADEMIC HONESTY All work in this course must be completed in a manner consistent with NDSU University Senate Policy, Section 335: Code of Academic Responsibility and Conduct. Violations of this policy in this course will result in a 0 for the quiz or exam on which academic misconduct occurred. You can read the Senate Policy at <http://www.ndsu.nodak.edu/policy/335.htm>.