Dr. Darci L. Kracht

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Office Hours: 9:55-10:45 MTWRF and by appointment Class Webpage: http://www.math.kent.edu/~darci/forstudents/fca/

Prerequisite

The prerequisites for this course are Math 12002 (Analytic Geometry and Calculus I), a desire to learn, and a willingness to work hard.

Textbooks

Our main mathematics textbook will be built by the class throughout the semester. The current outline can be found posted on the class webpage. The supplemental text is **The Mathematical Experience** by Davis and Hersh.

Email and Class Webpage

Students are required to monitor their @kent.edu email account. I will email the class through Flashline. Course materials will be posted at http://www.math. kent.edu/~darci/forstudents/fca/.

Course Description and Learning Outcomes

This is a mathematics content course for middle childhood and integrated mathematics education majors. The main topics are number systems, with an emphasis on their algebraic properties; elementary number theory, including divisibility in the integers; and polynomial theory, with an emphasis on divisibility. The ring structure of the integers and polynomials will be highlighted.

Learning Outcomes for the course can be found at http://www2.kent.edu/math/undergraduate/ upload/learning-outcomes-3.pdf.

This course will be taught using a teaching method known in mathematics as inquiry-based learning (IBL). IBL is an active, student-centered pedagogical strategy in which students are led to develop mathematical concepts and discover mathematical connections for themselves. The faculty member serves as mentor and moderator. The time in class is structured as a collaborative learning experience in which everyone works together to deeply understand the mathematical ideas. There is an emphasis on creative, critical thinking and problem solving. In addition to learning content, IBL courses provide opportunities to learn new dispositions and habits of mind, such as problem solving, communication, experimentation, and exploration.

There is a lot of evidence that when students actively discuss mathematical ideas with other students on a regular basis, they learn more deeply and the knowledge stays with them longer than when they work in isolation. Thus I encourage you to work together in small groups outside of class as well as in the class. You are invited to take an active role in your education, and hence the education of your future students!

Tentative Grading Scheme	
Attendance/Engagement	50
Presentations	100
Hand-in Homework	100
Reflective Essays	50
Quizzes	100
Exams	300
TOTAL	700

A: 93% A-: 90% B+: 87% B: 83% B-: 80% C+: 77% C: 73% C-: 70% D+: 67% D: 60%

Attendance and Engagement

Good attendance and participation in the class discussion are important for success in this course. You are required to arrive on time and remain for the full 50 minutes. You must silence and put away all electronic devices, such as phones, iPods, laptops, etc.

Students who follow the attendance guidelines, participate actively and respectfully with their classmates during group work, and contribute frequently and meaningfully to whole class discussions should expect to earn a B for their Engagement grade. Students who also demonstrate frequent insights and original thinking will earn an A. Students with lapses in attendance and/or passivity in class can expect a C or lower. Students will be given an opportunity to self-assess their engagement and these assessments will be taken into consideration by the instructor.

Presentations

Much of the class will consist of students presenting work to each other. Most of the time I rely on volunteers to make presentations, but sometimes I will choose the presenter. All students must volunteer on a regular basis.

Students presenting their work are not expected to give a seasoned, polished lecture that would be given by an experienced instructor. They are counting on their fellow students to help them by making clarifying suggestions and asking questions. I will feel free to ask questions of persons who are sitting down or to ask another student to go to the board and recap the presentation.

Your presentation grade will depend on your presentations as well as your attention to and participation in the class discussion of your classmates' presentations.

Hand-in Homework

Hand-in homework will be assigned periodically. Solutions must be written up carefully, showing all work, for full credit. Proofs should be written in complete English sentences.

Students are expected to turn in hand-in homework assignments at the beginning of class on the due date. Students with an excused absence on the due date may turn in the assignment for full credit at the beginning of the next class attended. Unexcused late homework will be accepted only until the start of the class in which the graded assignments are to be returned (usually the next class after the due date). In this case, there will be a penalty of 10% of the total value per school day, including the due date. For example, homework due on Wednesday and turned in after the start of class on Wednesday will be accepted with a 10% penalty, homework turned in on Thursday will receive a 20% penalty, etc., until graded assignments are returned. Assignments may be turned in, in advance, to my mailbox in 233 MSB.

Reflective Essays

Reflective essays will be assigned periodically. Each essay should be at least a half-page long (120 words), typed in a readable 12-point font. Do not submit essays on notebook paper or via email. The late policy for hand-in homework applies to reflective essays as well.

Quizzes

Short written quizzes will be given in class approximately once per week. All students must take the quiz in class. Make-up quizzes will **not** generally be given, even for excused absences. Instead, a couple of your lowest scores will be dropped at the end of the semester.

Exams

There will be two-three exams (including the final). The exact dates will be announced in class one week in advance. Students are responsible for ascertaining the dates of the exams. The final exam will be given during finals week on Tuesday, May 5, 10:15–12:30.

Make-up exams will be given only to those students with a valid, documented excuse who make an explicit agreement with the instructor in advance for a makeup. Leaving early for break is not an acceptable excuse. Please do not make travel plans that conflict with exams. Last-minute voicemail or email messages will be accepted as a rescheduling arrangement only in case of a sudden and serious emergency.

Registration & Withdrawal Deadlines

The official registration deadline for this course is January 25, 2015. University policy requires all students to be officially registered in each class they are attending. Students who are not officially registered for a course by the published deadlines should not be attending classes and will not receive credit or a grade for the course. Each student must confirm enrollment by checking his/her class schedule (using Student Tools in Flashline) prior to the deadline indicated. Registration errors must be corrected prior to the deadline.

The official withdrawal deadline for this course is March 22, 2015.

Cheating and Plagiarism

Cheating will not be tolerated— serious penalties will imposed. In addition, all cases will be reported to the Office of Student Conduct. University policy 3342-3-01.8 deals with the problem of academic dishonesty, cheating, and plagiarism. If you have any questions, please read the policy and/or ask. (See http://www.kent. edu/policyreg/.)

Students with Disabilities

University policy 3342-3-18 requires that students with disabilities be provided with reasonable accommodations to ensure their equal access to course content. If you have a documented disability and require accommodations, please contact your instructor at the beginning of the semester to make arrangements for necessary classroom adjustments. Please note, you must first verify your eligibility for these through Student Accessibility Services. (Contact 330-672-3391 or visit http: //www.kent.edu/sas/ for more information and registration procedures.)