Mathematics 180A5, MWF 9:00, Online

Lecturer: Dr. Alexander Hulpke, Weber Room 206B (but this semester no walk-in visits)

Office Hours: Will be virtually, TBD, starting next week. See Canvas.

Email: `hulpke@colostate.edu` [1].

WWW: Canvas

Textbook: Lecture notes in PDF format will be made available on Canvas as the class progresses.

How will the class run

This is a mostly synchronous online class. That is, you will participate (via Zoom, Link is on Canvas) on M,W,F 9am. I expect you to show up regularly. There is no class on Tuesday.

Class session will be primarily to study examples, answer questions **(please ask questions!)**, and to gain practice with the material. Also assigned (and labeled by days) are sections from the class notes to read and prerecorded video lectures. These will be available a few days ahead, and I will assume that you will have watched these by the end of the assigned day.

The prerecorded lectures are hosted using the Microsoft Stream platform. You might have to log in (using your CSU credentials) once to be able to watch them. If you click on the video title in the top left corner, you will be led to a dedicated page for the video that includes an (automatically prepared, so quality varies) transcript.

I am designing the general course flow in Canvas in Modules. Follow these to find the next assigned sections.

Video etiquette

Covid-caused limitations enforced online delivery of the class. I understand that this can be awkward and initially strange. Some further information and ground rules:

- I ask that you use Zoom with an account (please sign up during the first week), as this will make it easier to set up group work. I suggest you use your CSU email, but do not require it.

- Please use your proper last name (and preferred first name), not an alias.

- Please mute yourself, unless you want to ask a question.

- Do not be shy in asking questions. Simply unmute yourself and ask. Or, if you find that too awkward, there is a "raise had" feature (under "Reactions").

- I do not require you to have the camera on, if you find that intrusive. However seeing participants actually is helpful feedback for me, so I encourage you to keep the camera on.

- You are welcome to use backgrounds etc, as long as it is not distracting.

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[1] In case you wonder how to address me, the easiest way to start an email would be to address me as "Professor Hulpke" (using the name of the position) or "Dr. Hulpke" (using the academic degree)

- I plan to record class sessions and make them available for limited time afterwards to enable catch-up in case of internet connections being bad. However this is not guaranteed. If attendance drops off, I will discontinue recordings. These eecordings will appear under the Echo360 Tab in Canvas. Please do not make recordings, showing other participants, available to others.

(In case you are wondering, I am using Zoom for reasons of video quality, combined with relative ease of use, but I am aware that the companies record has been spotty at best in respect to privacy, and to potential influence of undemocratic foreign regimes. A pandemic however does not seem to be the right moment to become dogmatic.)

Assigned Work, Grades

Assigned work consists of three parts. Some of them are essentially pass/fail with a threshold, and are intended to encourage continuing participation. The others have a more granular grading and will determine the letter grade (assuming the pass threshold is held).

The first is online quizzes in Canvas that check comprehension and group work assigned in class sessions. You must maintain 80% success in these submissions[2]. If you fall below the 80% threshold, you will fail the class.

The second part is written homework, given weekly and solutions to be submitted in scanned form. There is 1 point per problem which will be given if the answer shows appropriate effort. This homework constitutes 40% of the letter grade. You are also to discuss these homework assignments with other class participants, as long as the actual write-up is your own work. (I.e. no copying of someone else's solution). You are not permitted to post homework problems on websites outside CSU.

We finally will have two midterm (Feb 24, and on April 2, during class time) and one final exam, May 13 11:50-1:50 (all at home), each counting for 20% of the letter grade Exams are to be done alone and exam questions may not be shared with others.

The final letter grade in your class will be:

- F, if you do not meet the 80% threshold on comprehension quizzes and group work.

- Calculated from the percentage score by the formula

$$20\left(2\frac{\text{HW points}}{\text{HW total}} + \frac{\text{MT1 points}}{\text{MT1 total}} + \frac{\text{MT2 points}}{\text{MT2 total}} + \frac{\text{FIN points}}{\text{FIN total}}\right)$$

with A,B,C,D at 90%, 80

Caveat: Canvas seems to be very eager to take stored numbers and associate grades or performance percentages (in some random scheme) to them. **Do not trust any grade information claimed by Canvas, unless I tell you explicitly about particular information I will post.**

Advice

- Work continuously on the class. Don't leave breaks (for whatever reason) and attempt to catch up later – doing so will be hard.

- Start early on assigned work (recorded lectures, work assignments). Do not leave this until last moment.

- Attend classes (unless health reasons prevent). I believe this is the best way of learning skills and resolving misunderstandings. I do not take attendance, since I believe that you are adults and do not need hand-holding any longer, but that does not mean attendance is not expected.

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[2]This will be easy to achieve, as you have multiple attempts on the comprehension quizzes.

Your Instructor

I was born in Germany and went to School and studied there. After getting my doctorate in 1996 from RWTH Aachen University, I have been postdoctoral researcher at the University of St Andrews in Scotland (in the CS department) and at the Ohio State University (in Mathematics); since 2001 I have been on the mathematics faculty at CSU. My research is in how to algorithmically solve mathematical problems that involve symmetries. (A toy examples would be how to solve a "Rubik's cube" style puzzle, a hard research problem is *Graph Isomorphism*.) The mathematics software GAP, of which I am a principal author, was awarded the 2008 Jenks Prize by ACM/SIGSAM. I am married and have two daughters in middle/high school.

Covid Precautions

(The campus Teaching Continuity team requests that each instructor add the following COVID-19 information to their spring 2021 course syllabus:)

Important information for students on COVID-19:

All students are required to follow public health guidelines in any university space, and are encouraged to continue these practices when off-campus(es). Students also are required to report any COVID-19 symptoms to the university immediately, as well as if they have potentially been exposed or have tested positive at a non-CSU testing location. If you suspect you have symptoms, please fill out the COVID Reporter (`https://covid.colostate.edu/reporter/`). If you have COVID symptoms or know or believe you have been exposed, it is important for the health of yourself and others that you complete the online COVID Reporter. Do not ask your instructor to report for you; if you report to your instructor that you will not attend class due to symptoms or a potential exposure, you are required to also submit those concerns through the COVID Reporter. If you do not have access to the internet to fill out the online COVID-19 Reporter, please call (970)491-4600.

If you report symptoms or a positive test, your report is submitted to CSUfbs Public Health Office. You will receive immediate, initial instructions on what to do and then you will also be contacted by phone by a public health official. Based on your specific circumstances, the public health official may:

- choose to recommend that you be tested and help arrange for a test

- conduct contact tracing

- initiate any necessary public health requirements or recommendations and notify you if you need to take any steps

If you report a potential exposure, the public health official will help you determine if you are at risk of contracting COVID.

For the latest information about the Universityfbs COVID resources and information, please visit the CSU COVID-19 site (`https://covidrecovery.colostate.edu/`).

Academic Integrity

This course will adhere to the CSU Academic Integrity Policy as found on the Student Responsibilities page of the CSU General Catalog and in the Student Conduct Code.

At a minimum, violations will result in a grading penalty in this course and a report to the Office of Student Resolution Center.

You are explicitly forbidden to post course material, full or part) on websites outside the university (such as "homework help" or "discussion"), or to use such websites to get help on solutions. Doing so will be considered a violation of academic integrity. We actively monitor such web sites, exam material will be marked to enable tracing. The penalty for posting, or looking up exam questions on such websites will be a grade of F in the class.

(Disability) Accommodations

If you are a student who will need accommodations in this class due to a disability or chronic health condition, please provide me with the SDC (Student Disability Center) accommodation letter. If you do not already have these accommodation letters, please contact the SDC as soon as possible to initiate the process of setting up accommodations. The SDC is located on the room 121 of the TILT building. You can reach them by phone at 970-491-6385 or visit `www.disabilitycenter.colostate.edu`.

Please be aware that the university provides help for problem situations, available through student case management (`https://studentcasemanagement.colostate.edu`).

Also please feel free to talk to me, if you feel that course policies impose hardships on you.

Copyright statement

Please do not share material from this course in online, print, or other media. Course material is the property of the instructor who developed the course. Materials authored by third parties and used in the course are also subject to copyright protections. Posting course materials on external sites (commercial or not) violates both copyright law and the CSU Student Conduct Code. Students who share course content without the instructorfbs express permission, including with online sites that post materials to sell to other students or that provide help or tutoring, could face appropriate disciplinary or legal action.