

**Chapter 1 : For potential Ph.D. students**

*After that, you can email the professor (Daniel Erman derman at calendrierdelascience.com). Finally, if you still have concerns that you don't feel like have been reasonably addressed, you can raise those concerns with either an Academic Dean or with the math department's associate chair Tonghai Yang (thyang at calendrierdelascience.com).*

This page is intended for those considering working with me, although it also contains some tips for graduate students in general, as well as an idea of what I expect. Algebraic geometry or at least my take on it is a technical subject that also requires a good deal of background in other subjects, as well as geometric intuition. So before I take you on as a new student, you should be comfortable with the foundations of the subject, which means having done the majority of the exercises in Hartshorne or my course notes, and being able to explain them on demand. You should also be actively interested in learning about nearby subjects that interest you. Which subjects they are is up to you. If you are interested in some of the ideas of algebraic geometry, you should also consider a number of other advisors. In this department there are a good number of people interested either directly or indirectly in algebro-geometric ideas. You can read about them here. I will of course be happy to talk with you no matter whom you are working with. I like to meet my students every week except for exceptional weeks, of which there are many. You may prefer not to meet in a given week if you have nothing much to report, but those weeks are particularly important to meet. I will be a demanding advisor, more demanding than most. I have pretty broad interests in and near algebraic geometry. However, some of those subjects may not be ideal for a Ph. I may however not be the ideal person to supervise lots of things. For example, I will not supervise a thesis in a nearby field. But I definitely do not require that you work on problems directly related to my own research. General advice which would apply particularly to my own students Think actively about the creative process. A subtle leap is required from undergraduate thinking to active research even if you have done undergraduate research. Think explicitly about the process, and talk about it with me, and with others. For example, in an undergraduate class any Ph. But in order to know everything needed to tackle an important problem on the frontier of human knowledge, one would have to spend years reading many books and articles. Learn things from all over the field, and beyond. The facts, methods, and insights from elsewhere will be much more useful than you might realize, possibly in your thesis, and most definitely afterwards. Being broad is a good way of learning to develop interesting questions. When you learn the theory, you should try to calculate some toy cases, and think of some explicit basic examples. Talk to other graduate students. Also talk to post-docs, faculty, visitors, and people you run into on the street. I learn the most from talking with other people. Older graduate students will verify that there is a high correlation between those students who are doing the broadest and deepest work and those who are regularly attending seminars. Many people erroneously conclude that those who are the strongest students therefore go to seminars, while in fact the causation goes very much in the opposite direction. Go to research seminars earlier than you think you should. Do not just go to seminars that you think are directly related to what you do or more precisely, what you currently think you currently do. You should certainly go to every single seminar related to algebraic geometry that you can, and likely drop by other seminars occasionally too. Learning to get information out of research seminars is an acquired skill, usually acquired much later than the skill of reading mathematics. Try to follow the thread of the talk, and when you get thrown, try to get back on again. At the end of the talk, you should try to answer the questions: What question s is the speaker trying to answer? Why should we care about them? What flavor of results has the speaker proved? Do I have a small example of the phenonenon under discussion? You can even scribble down these questions at the start of the talk, and jot down answers to them during the talk. Try to extract three words from the talk no matter how tangentially related to the subject at hand that you want to know the definition of. Then after the talk, ask me what they mean. In general, feel free to touch base with me after every seminar. I might tell you something interesting related to the talk. New version of the previous jot: See if you can get one lesson from the talk broadly interpreted. If you are unable to learn even one thing about mathematics from a talk, think about what the speaker could have done differently so that you could have learned something. You can learn a lot about

giving good talks by thinking about what makes bad talks bad. Try to ask one question at as many seminars as possible, either during the talk, or privately afterwards. The act of trying to formulating an interesting question for you, not the speaker! Then you can later backfill from these tendrils, and extend your comfort zone; this is much easier to do than learning "forwards". There can be a temptation to learn lots of fancy words and to use them in fancy sentences without being able to say precisely what you mean. You should feel free to do that, but you should always feel a pang of guilt when you do. Your thesis problem may well come out of an idea you have while sitting in a seminar. Go to seminar dinners when at all possible, even though it is scary, and no one else is going. Go to colloquia fairly often, so you have a reasonable idea of what is happening in other parts of mathematics. It is amazing what can become relevant to your research. Ditto for seminars in other fields. On giving talks There is a huge amount to say about giving talks. Advice from Jordan Ellenberg. How to give a colloquium. By chance, I recently saw a PhD thesis whose acknowledgements ended with the sentence "Finally, I would like to thank Dr. So one truly never knows where useful insights will come from. So go to talks and give talks and talk to people! For people writing research papers for the first time or not for the first time , here is a lecture by Serre, one of the best mathematical writers of all time, with some opinions on good and bad writing. Terry Tao on writing. When thinking about advisors, talk to past and current graduate students. My former and current students: I also collaborated with Kirsten Wickelgren , who worked with Gunnar Carlsson. You find some advice and discussion at the secret blogging seminar by Noah Snyder and others quite interesting. Steven Weinberg wrote a fantastic piece in Nature about graduate school. Here is a page at UC Davis of useful things to know when starting graduate school John Baez has advice for the young scientist , which includes advice on giving good talks, as well as an important discussion on keeping your soul. Click on "TSR" here for advice collected by Dan Margalit for graduate students in topology which is universal. Specific advice about algebraic geometry at Stanford Sign up for the algebraic geometry mailing list. Go to the Western Algebraic Geometry Seminar , a twice-yearly conference. Occasionally go to Berkeley when you hear about something particularly interesting. When you are up to it, subscribe to the daily mailing of abstracts of algebraic geometry papers posted to the arXiv. Then most days, just delete them, but when you have some time, browse through them, and read the abstracts that catch your eye. I might delete this paragraph at some point if I realize it is counterproductive.

## Chapter 2 : [] A quick proof of nonvanishing for asymptotic syzygies

*MATH (Lectures 2, 3 and 4) Fall Practice Midterm Name: Circle your TA's name from the following list. Allen Zhang Bobby Laudone Dima Kuzmenko Geo Bentsen Jaeun Park.*

Combinatorics and graph theory and Math. Introduction to modern algebra. Topics in birational geometry. Introduction to differential topology. Spaces of arcs and singularities in birational geometry. Introduction to birational geometry. Introduction to diophantine approximation on abelian varieties. Mitya Boyarchenko kindly posted scanned versions of his notes here. Zeta functions in algebraic geometry. Here are the lecture notes from the course. Algebraic geometry II Schemes and cohomology. Here are the homework assignments and the problems covered in the discussion session. Fall , Winter Math and Here are the lecture notes , though some chapters are still missing. At the same time, there will be a program in Derived algebraic geometry. Tommaso de Fernex, Karl Schwede, and I organized the Summer school and conference Higher dimensional algebraic geometry , held at the University of Utah, July , This happended between July , , at the University of Utah. Some events in Ann Arbor 1. The speakers will be Zhiwei Yun. Future and past conferences.

## Chapter 3 : Daniel Erman at University of Wisconsin - Madison - calendrierdelascience.com

*MATH Calculus & Analytic Geometry II is a course taught at University of Wisconsin, Madison by.*

## Chapter 4 : Papers by Andrew Snowden

*Here is the best resource for homework help with MATH Calculus & Analytic Geometry II at University Of Wisconsin. Find MATH study guides, notes, and.*

## Chapter 5 : MATH UW: Calculus & Analytic Geometry 2 | StudySoup

*View erman-fafin from MATH at University of Wisconsin. Ermao MATH ( and ) Fall Final Exam. Name: Circle your TA's name from the following list.*

## Chapter 6 : UCB Mathematics | Department of Mathematics at University of California Berkeley

*Math uw madison keyword after analyzing the system lists the list of keywords related and the list of websites with related content, in addition you can see which keywords most interested customers on the this website.*

## Chapter 7 : Mircea Mustata's Home Page

*Math Fundamental Mathematical Skills Math Intermediate Algebra Math Algebra Math Trigonometry Math Algebra & Trigonometry Math Arithmetical Problem Solving.*

## Chapter 8 : Reserves & Exams | Math Library

*Learn about the people and activities that make UC Berkeley one of the best places in the world for advanced research, graduate and undergraduate study in mathematics.*

## Chapter 9 : Short Items | Not Even Wrong

*Erman is single-handedly the greatest math professor you will ever have. Period. Math is a very hard class that he made*

*clear, interesting, and doable.*