

## Originality in the Arts and Sciences

- *Freshman Research Initiative Research Methods*
- *Plan II Honors TC310 Modes of Reasoning (Unique Numbers 43752)*
- *Dean's Scholars NSC301C Course (Unique Numbers 49179)*

**Overview:** Students are introduced to the traditions established in the arts and sciences for generating new knowledge from original ideas. Modeling after the way that faculty conduct research, students are required to create original research reports or papers that utilize skills introduced in lecture and developed using the resources of the university including libraries, museums and research collections, research laboratories and computer facilities. Faculty, graduate students and undergraduate mentors will form intellectual communities in which students develop confidence in creating original ideas that will be subject to inquiry.

### Instruction Team:

#### *Faculty*

David Laude (Lead Instructor)	Chemistry and Biochemistry	dalaude@mail.utexas.edu
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Elizabeth Scala (Lead Instructor)	Department of English	scala@mail.utexas.edu
Office: Calhoun 213. Office hours Tu 9 to 10 and W, Th 2 to 3		Please call 471-8375 or email.

#### *Teaching Assistants*

Brooke Hunter (keeper of grades)	English	brookemhunter@yahoo.com
Vanessa Williams (keeper of PAI 4.14)	Chemistry	vanessa.m.williams@mail.utexas.edu

#### *Undergraduate Teaching Assistants (UGTAs) and Cohort Leaders*

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Course Website: <http://laude.cm.utexas.edu/courses/OASf08/OASf09.html>

## Course Components

### Meeting Times

- Lectures: Monday and Wednesday from 10 to 11 in PHR 2.108
- Administrative Meetings: This course is complicated so sometimes the class will meet on Fridays from 10 to 11 in PHR 2.108 to find its bearings.
- Lab Times: Tuesday 3:30 to 9 pm and Thursday 6 to 9 pm in PAI 4.14

**Lectures:** Professors Laude and Scala will usually lecture once each, per week. Lecture topics are included in the course outline. In addition to the discipline-specific lectures, regularly scheduled informal conversations between the faculty and students will address more general ideas of interest to academicians.

**Laboratory:** This OAS class has the use of PAI 4.14 between 3:30 and 9 on Tuesday and again on Thursday evening from 6 to 9 pm. The laboratory is a good place for incubating science inquiry ideas and post-inquiry reflections. You will also perform at least one inquiry using the equipment in the lab. One of your TAs, Vanessa Williams, will supervise the Dean's Scholars UGTAs who will help her manage the lab, teach you basic skills, and make sure you are safety-trained and know how to check out and use the equipment.

**Museums and Libraries:** This OAS class will make substantial use of the University's rich collection of libraries and museums.. These locations are a great place for incubating humanities inquiry ideas and post-inquiry reflections. You will perform at least one inquiry using these facilities. To help you prepare, one of your TAs, Brooke Hunter, will supervise the Plan II UGTAs who will help in teaching you how to navigate the libraries and museums.

**Cohorts and UGTAs:** Each student will be assigned to a cohort of about 6 or 7 students with a lead UGTA. The cohorts will attempt to gather students with similar majors, career interests or intellectual thrusts. You are required to meet once a week for an hour with your cohort. It is within the cohort that much of the guidance will be provided in developing inquiry ideas and executing skill modules. Your cohort UGTA will be responsible for managing your work product and seeing that it gets where it needs to go for grading.

**Assignments:** There are no exams. Instead you will be asked to turn in 16 assignments.

- Three inquiries each of which is worth 15% of your course grade
- Twelve skill modules each of which is worth 2.5% of your course grade
- One group project that is worth 25% of your course grade

**Inquiries:** The primary mode of assessment will be the work product of self-directed inquiries spawned from original ideas. Each student must complete three original inquiries to fulfill about one points assigned for the course grade. In reality, your three inquiries will define what kind of grade you get for the course since the skill modules and group work are less likely to allow you to individually demonstrate what you are capable of achieving as an independent, creative thinker. In other words, this is where you should put 90% of your effort for the course.

**Skills Modules:** Over the course of the semester you will be asked to develop an array of skills that you will find to be useful in your quest to become an independent, creative thinker at UT Austin. The resources of this university are vast, and believe it or not, extend well outside the classroom. You may decide to learn how to navigate the HRC or calibrate a photometer or use Excel to do a statistical analysis or simply talk with a professor about an idea you have. Think of it sort of like earning your merit badges. You will need to earn 12 badges and there will be scores of possibilities from which to choose. To some extent you will decide which ones are right for you (except that we will certainly make you do some that you would prefer to avoid.) These skill modules will constitute about one-fourth of your grade and are graded pretty much on a, did you do it or not, basis. Do one a week and it won't seem so bad.

**Group Project:** Throughout the semester your cohort will work together to create either a science or humanities research proposal. The project, which has the weight of a final exam, will require that you engage yourself with every aspect grantsmanship, from coming up with a good idea, to creating context and justification, to developing a timeline, project scope and budget, to drafting a fully developed proposal in a discipline-appropriate style. Through this assignment you will experience the various stages of the proposal process: reference work, vetting by experts, presentation, criticism and rebuttal.

**Assignment Grading:** This is an honors course—you are expected to do your work well. Should you turn in work the instructors consider to be inferior, it will be returned with suggestions on how to improve. In other words, the two grades you can receive on an assignment are pass or keep (start) trying. Your UGTAs will grade the skill modules. Your professors will grade the inquiries.

**Portfolio:** A portfolio in which you have neatly organized your 16 assignments must be submitted to Dr. Laude's office by Friday, December 12 at 5 pm. Your final course grade will be determined after an evaluation of the portfolio materials. You can pick up your portfolio on the first day of class in the spring semester.

**Course Grade:** To pass the course you must receive a grade of "pass" for all 16 of your assignment. Don't turn in an assignment, you get an F. Now it is no secret that in honors courses most students earn As, and that is no exception here, but none of your instructors will put up with inferior work, and if we keep returning inquiries with comments that suggest you need to do better, you will not be earning the grade you want.

**Late Work:** Philosophically Dr. Laude is opposed to assigning due dates in courses based on inquiry. The problem is that if left to your own devices, about half of you will crash and burn, which is no way to start college. The only obvious solution is to establish expected due dates and to hound you mercifully till you get the work done. This year we will be relying on the UGTAs to let us know if you are making a legitimate effort to get your work in on time, and if you need additional time because of conflicting coursework, or a non-academic issue, or your inquiry idea didn't pan out, or you are doing something so extraordinary that you need more time, we will grant an extension. However if you have no valid reason for the delay, you will not be granted an extension and will be penalized for late work.

**Attendance:** Students are expected to attend class and cohort meetings unless permission is received to be absent. Period. Repeat offenders will find that their course grade suffers. Show up, or e-mail your regrets, it is that simple.

**Chaos:** 2 professors, 2 TAs, 15 UGTAs, 100 honors students, 1600 assignments with little guidance and enormous expectation.

## OAS COURSE OUTLINE (08/26/2009)

Lec. #	Day	Date	Topic	Presenter	Assignments
	W	8/26	Administrative day--Syllabus, Course Overview, Inquiry 1	Laude	Inquiry 1 assigned
	F	8/28	Administrative day - Cohorts Created	UGTAs	
1	M	8/31	Scientific Method	Laude	
2	W	9/2	What are the Humanities?	Scala	Inquiry 1 idea approved
3	W	9/9	Academic Epiphanies	Scala/Laude	
	F	9/11	Administrative Day – Inquiry 2	Scala/Laude	Inquiry 2 assigned
4	M	9/14	Statistics and Uncertainty	Laude	Inquiry 1 due
5	W	9/16	Keywords—learning through and about words	Scala	
	M	9/21	Comments on Inquiry 1	Scala/Laude	Inquiry 2 idea approved
6	W	9/23	The Secret Lives of Academicians	Scala/Laude	
	F	9/25	Administrative Day- FRI explained	Simmons	
7	M	9/28	Experimental Design	Laude	
8	W	9/30	History—why and how context matters	Scala	
9	M	10/5	Optimization	Laude	
10	W	10/7	Dialogue—learning by talking and listening	Scala	Inquiry IV assigned (group proposal)
	F	10/9	Administrative Day—Inquiries 3 and 4		Inquiries 3 and 4 assigned
11	M	10/12	The ins and out of scientific proposals	Laude	Inquiry 2 due
12	W	10/14	The ins and out of humanities proposals	Scala	
13	M	10/19	Modeling the Natural World	Laude	Inquiry 3 idea approved
14	W	10/21	Modeling Language	Scala	
15	M	10/26	All Lies—The Truth About Pretty Data	Laude	
16	W	10/28	Stories—learning through and about narrative	Scala	Inquiry IV idea approved
17	M	11/2	From Nature to Computer to You	Laude	
18	W	11/4	Ideas in the Humanities—and how they matter	Scala	
19	M	11/9	Uncertainty revisited	Laude	Inquiry 3 Due
20	W	11/11	So have you gotten better at creativity?	Laude/Scala	
21	M	11/16	Criticism—why professors have a hard time making friends in the real world	Laude/Scala	
	W	11/18	Administrative Day--Proposals and portfolios explained	Laude/Scala	
	F	11/20	Proposal Presentations	Cohorts	
	M	11/23	Proposal Presentations	Cohorts	
	W	11/25	Proposal Presentations	Cohorts	Inquiry IV Full Proposals Due
	M	11/30	Proposal Presentations	Cohorts	
	W	12/2	Proposal Presentations	Cohorts	
	F	12/4	Proposal Presentations	Cohorts	Proposal Criticisms Due
	T	12/15	Final Exam Time		Portfolios Due by 5 pm

## **Originality in the Arts and Sciences**

### **Inquiry I: Go Do Something Interesting and Tell Us About It**

For the next three weeks, you are asked to perform a bit of inquiry that exploits the opportunities, knowledge and skills you currently possess as you arrive on a college campus. You will write a paper that details what you have accomplished, employing whatever format or structure makes you comfortable: a lab report, a computer program, an essay, a criticism, a survey, a proof. It is important that you originate the idea that you investigate, that the work product you turn in approximate what you think quality work done over a three week period by an honors student would produce in a college setting, and that you think critically in writing about what you have done. If you don't struggle intellectually in the effort, it will show and you will be called on it.

**Selecting a topic:** Here is the hard part. BE CURIOUS!! Let your curiosity take hold—a big part of getting a good grade on this assignment is the creative part. You will have done your job if your professor actually enjoys grading what you have done.

**Your UGTA:** What better time than now to start to talk with people who have had these same experiences and are the better for them. You will be assigned an Undergraduate TA on Friday. Make it a point to engage your UGTA through IM or e-mail or text messaging or however you all communicate these days (maybe even meeting in person?) Understand that your UGTA is NOT to be the originator of your idea, he or she can suggest improvements to the idea. But in the end, it is your inquiry, although your UGTA needs to approve it.

**Format for the write-up:** Whatever you do, it has to be the kind of thing your instructors can access and read easily. Consequently electronic documents must be submitted as pdf files. Written documents must be typed and submitted on standard white 8.5 x 11 inch paper. If you use a forum not readily amenable to these media or formats, contact your UGTA for guidance.

- You have the option of submitting your document electronically or as a paper document. Instructions for submission will be provided the week the assignment is due.
- Retain a hard copy of the inquiry for your portfolio, which will be due on December 15.

**Safety:** You will make the decisions on where and how to perform this inquiry so it is difficult to be too specific, but I caution you to use good sense with respect to legal, health and safety and confidentiality issues. This is a serious warning. Use common sense in your efforts and check with an instructor before you do anything potentially illegal or dangerous.

**Grading:** Exhibit originality, enthusiasm, solid critical thinking and industry to get credit for the assignment. Otherwise we will hand it back for you to redo.

**Reflection:** Attached below is a single page that you must complete as the cover page to your inquiry. It is a reflection you will do after completing the inquiry that will allow for a bit of self assessment. Keep it real.

**A Giant Piece of Advice:** Get started on the inquiry this weekend. If you wait until the last minute on the 13<sup>th</sup>, it will be a good indication that your time management is an issue and that your academic year will be a disaster.

#### **Important Inquiry 1 Dates:**

Wednesday, August 26, 2008—Inquiry 1 assigned.

Wednesday, September 2, 2008 at class time—Deadline for having idea approved by UGTA

Monday, September 14, 2008 at class time—Deadline for submitting inquiry with appended reflection

## **Inquiry 1 Reflection—Append to front of inquiry 1 when submitted**

**Name:** \_\_\_\_\_ **UGTA:** \_\_\_\_\_

**Inquiry 1 Topic:** \_\_\_\_\_

**Give yourself a grade.** If you were assigning a letter grade as a college teacher in an honors course, what grade would you give your own inquiry 1 (A through F): \_\_\_\_\_

Explain the reasoning for your grade.

**UGTA reflection.** Candidly assess your interaction with your UGTA. Was he or she a help or a hindrance to you in creating a good inquiry. If they were a hindrance, what can be done to turn him or her into an asset for the next inquiry?

**Time Management.** Did you give yourself enough time to do a good job on the inquiry? Yes \_\_\_\_ No \_\_\_\_

Will you make any modifications to the way you manage your time in performing Inquiry II? In particular, what aspect of Inquiry I surprised you in terms of how much time it took you to complete it. What will you do to become for efficient?

**Independent Inquiry.** What do you think of independent inquiry as a way to learn? If you don't care for it, is this because it is fundamentally a flawed way to learn or is it because of the way you were programmed to learn in K-12?

**The Internet and Learning.** Did you rely on solely on what was already in your head in writing up the report or did you go to written sources (books, journals, internet) to supplement and develop a better background? If you didn't get help, what might you have learned about that would have made for a better discussion of your results? Write down a URL that you did use, or should have used.

**Getting ready for Inquiry II.** What were the most challenging issues for you with Inquiry 1 (consider, for example, idea development, background knowledge, poor experiment design, inability to assess data, etc.) What do you plan to do so that this is not a problem on Inquiry 2.

## **General Instructor Comments Composed After Grading Last Year's First Inquiry**

(Use these hints to avoid having cruel things written about your inquiry)

If you reduce the prompt for inquiry 1 to its essential features, it might look something like this:

1. Inquire (which means to seek information by asking a question)
2. Do something interesting
3. Having done something interesting you have to tell us about it.
4. Be original
5. Think critically
6. Show enthusiasm and industry

So when you are handing in your assignment, you might ask yourself, have I done these six things?

Other thoughts on ways that you might fail to achieve these prompts:

1. You are not nearly as interesting as you think you are. Those of you who insisted on self evaluation or were seeking out those most like you, got slammed. Professor Scala and I don't care if you have found a soul mate on campus who likes the same kind of jelly on their PBJ as you.
2. The internet provides access to everybody's opinion about everything. It is not appropriate to begin and end a reference search with a collection of blogs that support a critical argument you are making.
3. It is wonderful that you felt like writing a poem or a short story or a play and it is reasonable that this effort would satisfy prompts 2, 4 and 6 above. But if you do nothing more than that in your inquiry then you have not answered prompts 1, 3 and 5 and you will be forced to do more work. After all, if you remember the title of this course it is about modes of reasoning and research methods. So write a short story? No. Criticize a story? Yes. Write and criticize a short story? Sure.
4. College professors spot what you all would call BS a mile away (usually within the first two sentences) and no matter how you much you expand your inquiry with your own unsubstantial meanderings or cut and paste of internet drawings and blurbs, if it looks like BS and smells like BS, it is BS, and you get slammed.
5. Here is a good question to ask yourself after you finish an inquiry: Given a single sentence to describe what was accomplished with my inquiry I can now say: ..... And if you are forced to say something like: "I found out that water is wet" or "I like the Simpsons" or "Thinking critically is hard" then you will know at once the kind of grade you will receive.

**Grading Scale:** In the end, everyone gets a 0 or a 1. But it is nice to have an idea of how your grade calibrates with others, so used a 0 to 4 scale to sum up our gut sense of the quality of your inquiry. See the other side for details.

## OAS Inquiry Grading System

Each of your inquiries will be given a score from 1 to 4. This handout will help you interpret what each number means. Every score above 1 will pass the inquiry. Though there is no substantive difference between a 1+ and a 4 as far as your grade is concerned, we hope that this number system will help you track your progress through the course and situate your inquiry in relation to your fellow students' projects. If you received a grade of 0 or 1 you will be asked to resubmit your inquiry 1 and should contact Brooke about what you will be expected to do to earn a passing mark.

**Four: Good** You received a four for your inquiry if you showed creative and original thought, substantial effort, and a critical conclusion. You demonstrated critical thinking concerning the planning, execution, and analysis of your project. You seem sincerely interested in and excited about your work. Good job!

**Three: Satisfactory** You received a three for your inquiry if you were lacking in at least one of the three categories mentioned above: planning, execution, or analysis. Perhaps your idea was good but you lacked the time to complete the inquiry well; perhaps you failed to consider important variables in your experiment design but indicated your failure in your conclusion. You might also have earned a three if your idea was unoriginal but you still took the time to explore an idea new to you. Anyone who earned a three demonstrated interest in his or her project and showed critical thinking at times.

**Two: Passing** Your inquiry earned a two if it was substantially lacking in one, or partially lacking in two, of the following three categories: planning, execution, or analysis. A grade of two passes the inquiry without resubmission, but only barely. Perhaps the project was well designed, but the assignment showed little effort. Inquiries that earned a grade of two did not demonstrate satisfactory critical thinking. Usually inquiries earning twos were lacking in the planning and analysis stage, since these are the two stages where critical thinking is most important. An inquiry might also earn a two if the project was submitted in an inappropriate format.

**One+:** Your instructors occasionally gave this grade because even though you should do more work on the inquiry, he or she is on the fence and will simply let you go on to inquiry 2 where you had better do a good job because he or she won't let you get away with this twice.

**One: Resubmit** Inquiries earning a grade of one will be reworked and resubmitted for credit. A one indicates a dramatic lack of critical thinking during at least one part of the inquiry, a dramatic lack of effort, or an unacceptable format for submission. The most frequent reason for resubmission is a basic misunderstanding of what was required to competently complete the inquiry. If you earned a one please feel free to speak to your UGTA, the TAs, or to come to the office hours of Dr. Laude or Dr. Scala to discuss how to improve your project, but first contact Brooke by e-mail to see if there is something specific you can do to finish the work up quickly.

**Zero: Resubmit** You didn't even try. Make an appointment with the instructor who graded your inquiry ASAP and get started on turning around your attitude in this course. Think of the difference between a one and a zero is that a zero means you know what you did was really bad and you turned it in anyway.