MCB 595E, How to Survive & Thrive in Graduate School

**Instructor:** Frans Tax, PhD
Professor and Head,
Molecular and Cellular Biology
PI, IMSD
Email: fetax@email.arizona.edu

**Course objectives:** This course is designed for graduate students in the biomedical sciences. It provides information, discussion, and experiences that will aid in successful "survival" during your graduate-student years and following graduation. Topics will include skill development; time management; planning your progress through the degree program; career planning; mentoring and being mentored; conflict resolution in the laboratory, academic writing; and basic grantsmanship, focusing on preparing a proposal for NSF or NIH. Discussion of ethical issues, reproducibility of science, and resources available both within and outside UA will be integrated across topics.

**Format:** There will be a combination of short presentations, class discussions, and guest speakers.

**Requirements:** Requirements include regular attendance, participation in-class discussions and activities and completion of brief assignments for homework.

**Grading:** To receive an "A" in the course, at least 90% of in-class activities and out-of-class assignments must be completed and you must have no more than two absences from class. To receive a "B," the requirement is completion of at least 80% of in-class activities and out-of-class assignments and no more than four absences from class.

**Tentative schedule**

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<th>Week 1</th>
<th>Before class assignment:</th>
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<td>Reflect on your past two years in science. What did you like? What were your strengths/what were you recognized for? What parts did you not like? What was your weakest area? Is it an important area for success in graduate school program? What is your plan for improving this area?</td>
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| Week 1 Continued | In class:  
Meet the IMSD Staff, the Instructor, and each other  

Holly Lopez  
*Program Coordinator for IMSD/McNair*  

Frans Tax  
*Professor*  
*Department of Molecular and Cellular Biology*  
*Faculty Director for Diversity and Inclusion, Graduate College*  

Introductions and orientation. What are your expectations for the year? What should you do in your first week in the lab? How much are you expected to work? ([read excerpt from “At the Bench”, focusing on “Hours”, “What to expect in the first week” and “What to do in the first week”](#)).  

Homework: Write 1) your timeline for the year, 2) the major deadlines and goals of your program, and 3) any other goals you plan to accomplish (proposals or manuscripts submitted, meetings attended, etc.) (Around 1 page, due to the dropbox before class Sept 10). I suggest meeting with your graduate program coordinator for the details you need for the next two weeks homework, obtaining the manual for your program, and then checking with the Director of Graduate Studies for your program if you have any questions. Be sure to meet both of these people by the end of the two weeks. |

| Week 2 | In-class discussion: your first semester in your graduate program.  
- How will this differ from your past experiences?  
- What are the expectations of your programs?  
  - Rotations  
  - Courses  
  - Labwork  
  - Reading on your own  
  - Seminars and Journal Clubs  
  - What should be your work schedule, your vacation schedule, and  
  - What if you need to take a leave of absence for any reason?  
- What are some of the questions you have about being a graduate student or about a career in science?  

**Assignment:** Read Graudet Survival Article. Prepare a written timeline of the requirements of your PhD graduate program program (if you are an ABBS student, pick the program you will likely end up in) that incorporates your best guess about when you will address (or have already addressed) each requirement. Ask at least one more senior student for their opinions about the requirements Coursework, Written and Oral Comprehensive Exams, Proposal, Dissertation. |
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<th>Week 3</th>
<th>Requirements of your program to get a PhD: Discussion. Homework-read <strong>Skills-based education paper (Parker)</strong></th>
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<td>Week 4</td>
<td>Graduate student panel: Advice from the experienced! How to survive the first year of graduate school or postbac program Homework-Reading-<strong>How to give a scientific presentation (Alon)</strong>, and <strong>Speaker science</strong></td>
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<td>Week 5</td>
<td>Kathryn Kellner-Human Communication Studio- Presentation Skills workshop</td>
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<td>Week 6</td>
<td>Giving a talk-Dr. Tax (<strong>Powerpoint prep for 10 minute talks</strong>)</td>
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<td>Week 7</td>
<td>Mental Health During Graduate School (Guest-Jenna) Teso) <strong>Homework-Rotation Evaluation form for first rotation</strong></td>
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<td>Week 8</td>
<td>Practice talks If you are not presenting, read the <strong>critical discussion paper.</strong>-Alon</td>
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<td>To be decided: rest of semester from topics below</td>
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<td>Week 9</td>
<td>How to make the most of your attending a scientific conference- Discussion</td>
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<td>Week 10</td>
<td>Faculty panel of IMSD faculty</td>
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<td>Week 11</td>
<td>Careers and myIDPs (<strong>career powerpoint</strong>) Come to class with an idea of 2 careers you are interested in</td>
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| Week 12 | Time is our most limited resource. How do you balance your needs with the requirements that work and other people place on you? **Discussion:** How are you balancing your responsibilities? How do you feel about time management? What adjustments could you make to restore balance? What resources are available to help you? How do you manage to satisfy yourself and everyone else? **Reading for this week:**  
  - *Simple Steps to Master Your Use of Time*, T. Kuther, [http://gradschool.about.com/cs/timemanagement/a/time.htm](http://gradschool.about.com/cs/timemanagement/a/time.htm)  
  - *Why relationships with other students matter*, T. Kuther, [http://gradschool.about.com/od/survivinggraduateschool/a/peerrel.htm](http://gradschool.about.com/od/survivinggraduateschool/a/peerrel.htm)  
  - **Assignment:** Keep track of your time expenditures for ONE work day and one weekend day. Where are you spending your time? |
| Week 13 | Library resources-Library guests |
| Week 14 | Introduction to Mentoring-as a mentor and mentee Mentoring alignment activity (to prepare for mentor decisions in March or May) **Mentor compatibility and responsibilities** |
End of semester assignment
What were the surprises?
What was straightforward?
What was challenging?

Homework:
Looking back at your first week and what you wrote, were you able to meet your challenges? What do you want to focus on for next semester?
Upload to dropbox by Dec 18.

Spring Workshop Topics:

Outreach and scientific communication to the public-managing outreach and your graduate success. (student panel)

Data Science-Guest Dr. Celina Valencia

TAing and teaching-making the most of your teaching opportunities in your PhD program Student panel

Responsible Conduct of Research: Introduction to RCR-Scott Pryor-UAz Research Integrity Officer

Enhancing Date Reproducibility-Module 1-lack of transparency
Before class, watch the video: https://www.youtube.com/watch?v=U4A-ZSTUEUo Discussion

Enhancing Date Reproducibility-Module 2-Blinding and Randomization
Before class, watch the video: https://www.youtube.com/watch?v=NEcErxoOVm0 Discussion

Enhancing Date Reproducibility-Module 3-Technical and Biological Replicates
Before class, watch the video: https://www.youtube.com/watch?v=wSWunBYzl8c Discussion

Enhancing Date Reproducibility-Module 4-Sample Size, outliers and Exclusion Criteria
Before class, watch the video: https://www.youtube.com/watch?v=Pc0h-G0cBLE Discussion

Graduate College Career Counselor, Dr. Shawn Nordell, Associate Director of Graduate Career Services

The Graduate Center: Meg Lota Brown, Faculty Director for the Graduate Center

Managing money

Shelley Hawthorne Smith-Writing Resources for your PhD program Week 26

Mentoring part 3-How IMSD will help you in your next three years:
Assignment-chose an additional mentor on campus to meet with at least once a year to discuss career development

Dr. Marla Franco: Earning a PhD at an HSI
Lunch social and getting ready for finals discussion

University Policies:

Cheating and Plagiarism:
University of Arizona Student Code of Conduct and other policies apply and can be found in the following website: http://dos.web.arizona.edu/uapolicies/. Principle: (from the above website) Integrity is expected of every student in all academic work. The guiding principle of academic integrity is that a student’s submitted work must be the student’s own. This principle is furthered by the student Code of Conduct and disciplinary procedures established by ABOR Policies 5-308 - 5-403, all provisions of which apply to all University of Arizona students. This Code of Academic Integrity (hereinafter "the Code") is intended to fulfill the requirement imposed by ABOR Policy 5-403.A.4 and otherwise to supplement the student Code of Conduct as permitted by ABOR Policy 5-308.C.1. When you sign your name to your work, you are signing that it is solely your work.

Threatening Behavior by Students Policy:
The UA Threatening Behavior by Students Policy prohibits threats of physical harm to any member of the University community, including to oneself. See http://policy.arizona.edu/education-and-student-affairs/threatening-behavior-students.

Accessibility and Accommodations
Our goal in this classroom is that learning experiences be as accessible as possible. If you anticipate or experience physical or academic barriers based on disability, please let me know immediately so that we can discuss options. You are also welcome to contact the Disability Resource Center (520-621-3268) to establish reasonable accommodations. For additional information on the Disability Resource Center and reasonable accommodations, please visit http://drc.arizona.edu. If you have reasonable accommodations, please plan to meet with me by appointment or during office hours to discuss accommodations and how my course requirements and activities may impact your ability to fully participate.

UA Nondiscrimination and Anti-harassment Policy
The University is committed to creating and maintaining an environment free of discrimination; see http://policy.arizona.edu/human-resources/nondiscrimination-and-anti-harassment-policy

Our classroom is a place where everyone is encouraged to express well-formed opinions and their reasons for those opinions. We also want to create a tolerant and open environment where such opinions can be expressed without resorting to bullying or discrimination of others.

Code of Academic Integrity
Students are encouraged to share intellectual views and discuss freely the principles and applications of course materials. However, graded work/exercises must be the product of independent effort unless otherwise instructed. Students are expected to adhere to the UA Code of Academic Integrity as described in the UA General Catalog. See: http://deanofstudents.arizona.edu/codeofacademicintegrity
The information in this course syllabus, other than the grade and absence policies, may be subject to change with reasonable advance notice, as deemed appropriate by the instructor.