

THE SYLLABUS

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BIME 539

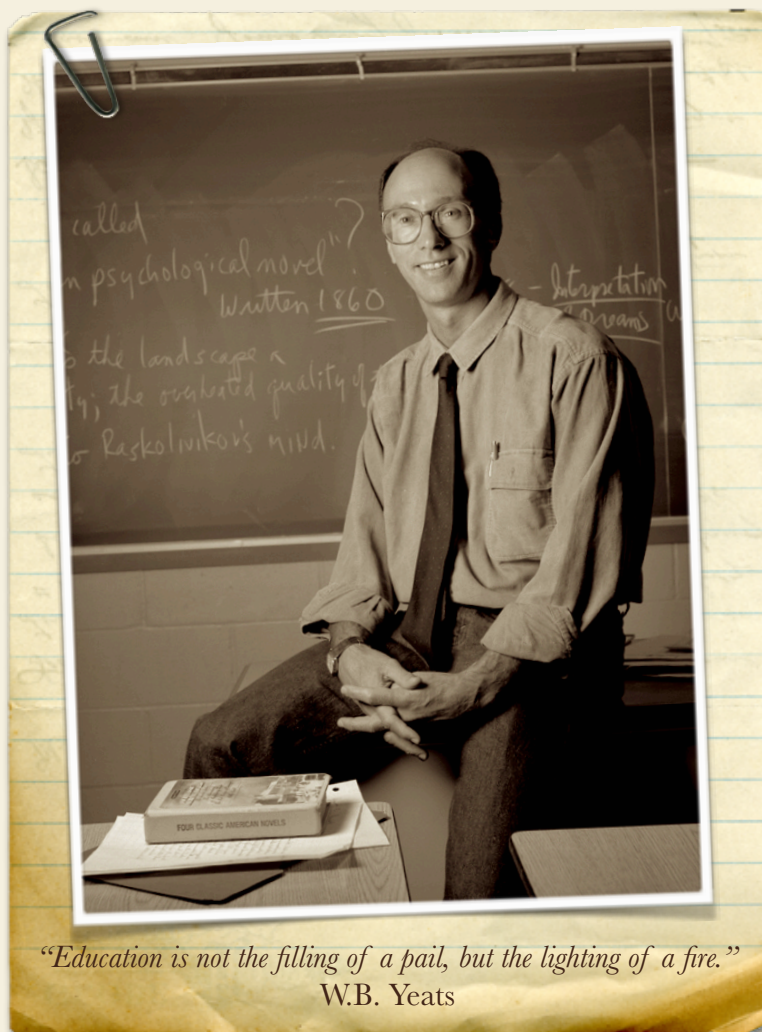
Teaching, Learning and Communication in Biomedical Informatics

WHY WE HAVE THIS COURSE

This course has an interesting history. Developed about a decade ago, the initial focus was on helping BHI doctoral students prepare for academic careers by building their instructional design and teaching skills. Over the years it has become clear that BHI students - and perhaps graduate students in many UW programs - follow myriad career trajectories, not all of which are in Academe. Therefore we've felt the need to evolve the course. Today we focus on a range of knowledge and skills important to not just BHI, but to graduates students in all of the health sciences, exploring interrelated topics in teaching, learning, and communication.

Professionals, regardless of where they work, require a core set of skills. For our course, these include the ability to be actively engaged in life-long learning; to communicate effectively and meaningfully using multiple channels; to productively participate in interdisciplinary teams; and to teach, manage, and lead, whether in the classroom or the boardroom. It is perhaps too common in graduate programs that these skills are assumed to either be innate ("you can't teach them") or that they develop naturally, without formal training and practice. I like to believe otherwise.

Our course is one with a heavy emphasis on skills development - you will have myriad opportunities to practice, to learn from peer feedback, and to improve. You also have the freedom to customize



"Education is not the filling of a pail, but the lighting of a fire."

W.B. Yeats

"You live, you learn."
Alanis Morissette

*"You live and learn.
At any rate, you live."*
Douglas Adams



the activities you will undertake, designing those that best fit your current skills and interests as well as your future career direction.

WHAT YOU'LL ACHIEVE

If you decide to be actively engaged, participative, and self-directed in this course you will demonstrably improve your knowledge and skills in many (or perhaps all) of these areas:

- Oral, written and visual communication
- Team dynamics - leadership and followership
- Design and delivery of learning events
- Assessment and evaluation of peers and of learners using feedback
- Personal career development planning
- Life-long learning

You may have noticed the phrase, "actively engaged, participative, and self-directed" is emphasized. This is important. I will do my best to deliver for you a course that is enjoyable, entertaining, flexible and challenging. But I won't - can't, actually - ensure you get the most out of it. That's up to you. I will not tell you exactly what to do.

I'll give you guidance and options on what to do, but it is up to you to "own your own learning" in this course. It's really not so hard. And it is what you will be *expected* to do once you leave your graduate program.

HOW WE'LL GET THERE

The course is not distinctly linear in design. In other words, we don't "start at chapter one and go, week by week, to the end of the book". There are several related but distinct areas you will go through in parallel. For example, the oral presentation component of the course will be done throughout the quarter and mostly in class while the writing component will also be done throughout the quarter but mostly coordinated online and in team meetings. What this means is you will need to keep a few balls juggling as we move forward. And you will need to plan your activities for the quarter very early on.

In the following sections of this syllabus you'll find details on my *proposed* course activities, deliverables, grading, schedule and the course norms. I say "proposed" because we'll spend the first class discussing and negotiating all of these. I do want your opinions on the overall course design and am quite willing to modify it if you all so desire. In short, I want us to *co-design* this course,

Course Website

Class:

9:00 - 11:00 AM

Mondays: T747

Wednesdays: SCC 221

Four Credits, Graded

Disability

Accommodations:

If you would like to request academic accommodations due to a disability, please contact Disabled Student Services, 448 Schmitz, 543-8924 (V/TDD). If you have a letter from Disabled Student Services indicating you have a disability that requires academic accommodations, please present the letter to me so we can discuss the accommodations you might need for class.

giving you some control over what you do and what you learn, depending on your personal needs. So be sure to read this syllabus closely before our first class.

I should add that because each of you will likely choose differing sets of deliverables for this course, I think that our weekly class sessions will be a bit unusually. In short, in the same way you individually choose a set of deliverables, you will also choose which class sessions to attend (ideally, those that are focused on the types of deliverables you've chosen to submit.

WHAT YOU'LL DO

Your Menu of Deliverables

In the paragraphs below I've laid out a broad range of activities and deliverables that we can undertake in the course. This may initially seem like a huge amount of work, but keep in mind that you do not have to complete all of these. Consider these as a "menu" from which you choose the activities and deliverables that best suit your learning needs and career path. I will note that *some* of these activities/deliverables will be required, but the remainder will be options from which you can choose. Full details on each will be found on the course Canvas pages.

Individual Development Plan

An "IDP" is a tool used in many graduate programs to enable students to take ownership of the progression through their training and to help them develop planning skills. There are myriad IDP models out there - UW has one

that you may well be using already. The goal of this activity is make the IDP an actually useful tool for you. This will be the tool you use to develop your course learning contract - a document you will complete in the first week of the course. An example of what this contract looks like is in Appendix A.

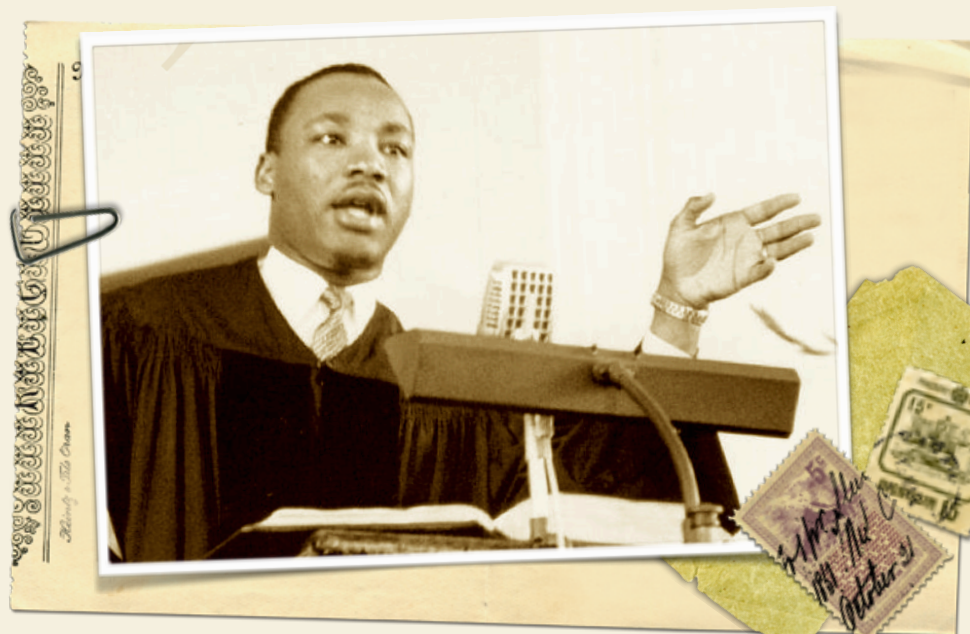
Oral Communication

Generally speaking (no pun intended) this means presentation skills. The best way to improve your presentation skill is lots of practice with extensive feedback. Additionally, we need to consider the various types of presentations we do - academic talks, explaining science to a non-scientific audience, the elevator speech, motivational and persuasive talks, to name a few. You will have multiple opportunities to give presentations this quarter, recorded on video, receive feedback from your peers and from me, improve the presentations and then do them again.

Written Communications

For most scientists writing is a core skill. And in the next few years you will do a LOT of it, mostly in the form of a thesis or dissertation. These two a fairly tightly defined writing styles in science - communicating your science to an audience of peers. However in your careers you will also be asked to write in other formats and to other audiences. Some examples might include:

- *Research Statement:* This document (and the next one) are generally required when you apply for jobs. A research statement explains, briefly, to a scientific audience your science domain and your specific research focus and why



"The single biggest problem in communication is the illusion that it has taken place."

George Bernard Shaw



*"Don't use words too big for the subject.
Don't say infinitely when you mean very;
otherwise you'll have no word left when
you want to talk about something really
infinite."*

C.S. Lewis

advice from your peers and from me, with opportunities to revise and refine.

Visual Communication

Clearly graphical digital media are increasingly becoming valid and useful tools regardless of what career direction you might take. The static conference poster will be useful for years to come. Videos, infographics, animations, voice-over slides are other examples. You may choose to develop any of these communications devices, again with feedback and opportunities to revise/refine.

Instructional Design

For those who do foresee and academic career in which formal teach will be required, you may choose to design a "learning event". While the specifics for this deliverable are quite flexible, the typical deliverable would be the design of a 1-4 hour class or workshop. In this activity you would define several aspects of the learning event:

- The audience of learners
- The knowledge the learners will acquire
- The skills the learners will acquire
- The class/workshop instructional design
- How you would assess the learner's acquisition of knowledge and skills

Ideally you would also have a venue in which to actually deliver this learning event, although that can be logistically challenging. I would be delighted to work with you on finding a venue if you wish.

Critical and Creative Thinking

This topic likely means differing things to different people. Where we can put these concepts into play is the area of the BHI 591 seminars that you have the option to develop and lead. In this skill domain we'll explore how to critically read a scientific paper and as well how to lead a discussion of

science domain and your specific research focus and why it is valuable to the employer.

- *Teaching Philosophy:* If you choose a job direction that requires you to teach, you will likely write a teaching philosophy statement - one that explains your beliefs about how teaching and learning are best developed.
- *Essay/Op-Ed:* As you become more senior in your field you will be asked to not just publish your research findings but as well weigh in with your expertise and wisdom. In such writing you may be free to offer opinions as well as facts.
- *Letter to the Editor:* As a senior figure in science you may also be called on to write to non-scientific audiences, similar to the persuasive talk mentioned above.
- *Blog:* These can, as you know, take myriad forms. And increasingly using this digital communication channel will be a core skill in your career.

You may choose to submit multiple writing assignments during the quarter for which you will receive feedback and

"I've learned that people will forget what you said, people will forget what you did, but people will never forget how you made them feel."

Maya Angelou



a scientific paper and as well how to lead a discussion of such papers in a seminar.

Giving and Getting Feedback

Another career skill you will most certainly require is getting and giving feedback, advice, and counsel - to peers, to superiors, to your direct reports and others. Given that you will all be creating and delivering presentations as well as written/visual artifacts, this is a perfect opportunity for your peers to offer formal, structured feedback to you, and for you to learn to improve your receiving feedback skills.

Team Dynamics

Informatics is by definition a multi-/inter-disciplinary domain. Whether your career path takes you to academia or industry, you will be working in and leading teams. Understanding team dynamics can help you develop your team skills - leading, following, and actively improving team cohesion and function. Several of the teaching, learning and communication activities listed in this section are ones that can be completed as teams (for example, the learning event) should you wish.

Professional Portfolio

Some of you may find that creation and curation of an "e-portfolio" will be useful, or perhaps even required, depending on your career direction. There are many tools and techniques for creating such an artifact, including the e-portfolio tool built into Canvas.

Self-Regulated Life-Long Learning

Cumulatively, all of these activities and deliverables are the skills of any informatics professional. To tie all these

together one can develop the skill of reflective thinking and reflective writing in the form of a personal learning log. Basically, the learning log is a weekly summary of your learning experienced over the previous week. This can take many forms the standard being an informal written journal.

Others?

What have I missed? Having read thus far into the syllabus you might have some addition ideas for skills you would like to better develop in this course. We'll have time to talk about these in the first class session...

HOW WE'LL ASSESS

The UW Graduate School grading model is as follows:

You must achieve a grade of at least 2.7 to pass a course and receive credit for it.

We'll use a specifications model of sorts to determine grades for the course. In short, you can "choose" what grade you will receive by deciding how many deliverables you wish to complete over the course of the quarter. The baseline grade for the course will be 2.7 and to obtain that grade you will need to successfully complete:

1. An IDP and Course Contract (Appendix A)
2. Two deliverables from the options described above.

To receive a higher grade you simply successfully complete more than two deliverables. Roughly speaking, each additional deliverable will be worth an additional 0.3 points

Letter	UW
A	4.0 - 3.9
A-	3.8 - 3.5
B+	3.4 - 3.2
B	3.1 - 2.9
B-	2.8 - 2.5

to the final grade. In other words, three deliverables means a grade of 3.0, four deliverables - 3.3, and so on. Five deliverables would mean a final grade of 3.9 - 4.0. These are tentative adjustments and when we meet in class we can talk about whether or not this grading approach works for you.

A few caveats. I do want to note that I described these deliverables as “successfully complete”. By that I mean that the degree of rigor and effort you put into each deliverable is important. Demonstrating improvement is also important. For example, I envision successfully completing an oral communication deliverable such as a presentation would require:

- Designing the presentation effectively,
- Giving presentation, with video recording,
- Receiving feedback on the presentation,
- Modifying the presentation based on feedback, and
- Giving the presentation again, demonstrating improvement in one or more areas.

A similar set of requirements would apply to a written communication.

COURSE NORMS

Below are my proposals for the course climate we'll have. These are entirely negotiable - and we'll spend time on the first day of the class developing consensus on these.

- An acknowledgment that we are all co-learners in this course - and we are diverse in our prior education, experience and knowledge. We're not competitors, we're colleagues.
- A commitment to rigor - I will push each of you to excel, based on your abilities and experiences. At times this may make you feel a bit uncomfortable, but it should never make you feel unsafe.
- My role is not as “teacher” - rather it is as mentor, advisor, consultant, and colleague.
- Your role as learner is to be willing to take ownership of your learning rather than depend on me, your colleagues or the program to deliver it to you.
- I'll strive to create a stimulating learning environment that creates intellectual curiosity and that facilitates interaction and collaboration between all of us in the course.
- We all consider our class as you would a group or team meeting in the real workplace. This means we all arrive on time, we are all prepared for the session and we all remain focused throughout. As far as “attendance” is concerned, it is entirely up to you whether or not to come to class. But if you do, I expect your full engagement.



“The single biggest problem with communication is the illusion that it has taken place.”

George Bernard Shaw

- Everyone will be prepared for each class. Everyone will strive to participate. We will all agree we're peers - and dissent and disagreements, respectfully proposed, will be welcome.
- We'll strive to have course tasks/deliverables that are practical and actionable, with no "busywork"
- I will strive to make the course structured, with clear goals, deliverables and schedule.
- I will strive to create a course climate that encourages inquiry, exploration, and personal choice.
- I will strive to design the course to be engaging - you'll strive to stay engaged. (Responsibility for engagement will be roughly 67/33, means I get to do twice the effort you do... :-)
- I will strive to ensure we generate both heat and light.
- Feedback will be important - instructor to student, student to student and student to instructor.
- If or when any of us feel we're not abiding by these norms we will speak up.

ADMINISTRIVIA

Academic Integrity

Students at the University of Washington (UW) are expected to maintain the highest standards of academic conduct, professional honesty, and personal integrity. UW is committed to upholding standards of academic integrity consistent with the academic and professional communities of which it is a part. Plagiarism, cheating, and other misconduct are serious violations of the University of Washington Student Conduct Code (WAC 478-120). We expect you to know and follow the university's policies on cheating and plagiarism. Any suspected cases of academic misconduct will be handled according to University of Washington regulations. For more information, see the University of Washington Community Standards and Student Conduct website.

Access and Accommodation

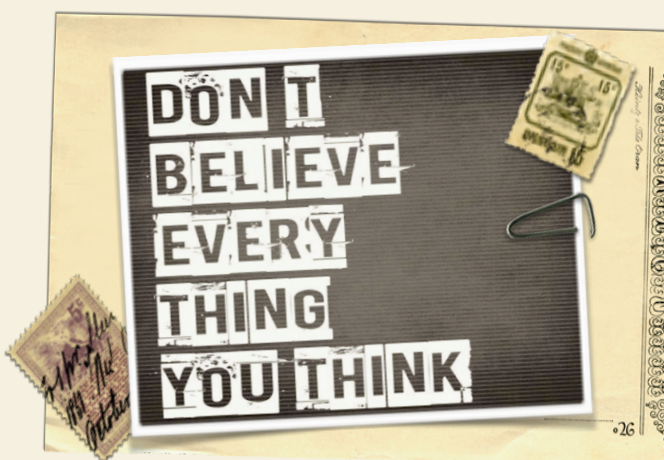
Your experience in this class is important to me. If you have already established accommodations with Disability Resources for Students (DRS), please communicate your approved accommodations to me at your earliest convenience so we can discuss your needs in this course.

If you have not yet established services through DRS, but have a temporary health condition or permanent disability that requires accommodations (conditions include but not limited to; mental health, attention-related, learning, vision, hearing, physical or health impacts), you are welcome to contact DRS at 206-543-8924 or uwdrs@uw.edu or disability.uw.edu. DRS offers resources and coordinates reasonable accommodations for students with disabilities and/or temporary health conditions.

Diversity, Equity and Inclusion

Diverse backgrounds, embodiments, and experiences are essential to the critical thinking endeavor at the heart of university education. I seek to ensure all students are fully included in each course and I strive to create an environment that reflects community and mutual caring, while we ally with others in combating all forms of social oppression, including those based on age, cultural background, disability, ethnicity, family status, gender identity and presentation, citizenship and immigration status, national origin, race, religious and political beliefs, sex, sexual orientation, socioeconomic status, and veteran status. We all have the privilege of learning together and as such we have the responsibility to engage in dialogue in a way that supports learning for all of us. Here are some practices we as community members can strive to use in our learning process:

- My own viewpoint is important—share it. It will enrich others.
- My colleagues' viewpoints are important—listen to them. Do not judge them.
- Extend the same listening respect to others I would wish them to extend to me. We all have room to grow to become better listeners in non-judgmental ways.
- Recognize that I might miss things others see and see things others might miss.
- Raise my views in such a way that I encourage others to raise theirs.
- Inquire into others' views while inviting them to inquire into mine.
- Ask questions when I don't understand something.
- Surface my feelings in such a way that we make it easier for others to surface theirs.
- Challenge what was said or done, rather than make assumptions about the individual.
- Be willing to take risks in moving outside my comfort zones.





APPENDIX A: SAMPLE LEARNING CONTRACT

The 539 Learning Contract is a tool you use to plan your course. It starts with completing an IDP (which should guide your overall career as a grad student). You've already completed the UW BHI IDP, we'll also look at [a version from AAAS entitled MyIDP](#).

Why use an IDP? There are research findings that support the idea:

"Findings from a 2005 Sigma Xi Postdoc multi-campus survey of US postdoctoral scholars underscore the importance of the IDP for career planning and professional development. According to the survey, postdocs reporting the highest levels of oversight and professional development are more satisfied, give their advisors higher ratings, report fewer conflicts with their advisors, and are more productive than those reporting the lowest levels. Specifically, the survey found that, compared to their peers without a written plan, postdocs who begin their appointment with an IDP developed in collaboration with their advisors:

- *Are 23% more likely to submit papers to peer-reviewed journals*
- *Publish first-authored papers at a 30% higher rate*
- *Submit grant proposals at a 25% higher rate*
- *Are 25% less likely to report that their advisor did not meet their initial expectations."*

Granted, these results are for post-docs, but I will wager that similar results can be achieved by graduate students as well.

What, you might ask, are the specific sorts of deliverables that you might complete in the various skill sets we've laid out in the syllabus. What follows is a list of ideas that you might consider. These are no exhaustive lists, and I encourage you to think creatively about what you might want to do.

Teaching And Learning

- Teaching Portfolio
- Course syllabus
- Lesson plans
- In-class and out-of class activities
- Assessment methods
- Volunteer to head a committee within your graduate program or school/college
- Supervise or train another student in your lab
- Coordinate a collaborative research project

Written Communication

- Scientific (commentary, original article, review, blog) for a science audience
- Dissertation writing
- Grant writing
- CV/résumé building and formatting
- Teaching philosophy
- Op-ed
- Magazine article

Oral Communication

- Scientific presentation
- Three Minute Thesis
- Interviewing
- Elevator speech
- Explaining science to a nonscientific audience
- Testimony

Media Communication

- Multimedia
- Poster
- Video
- Blog

Leadership And Collaboration:

- Conflict management and difficult conversations
- Leading a seminar
- Critical evaluation of the literature

Giving and Receiving Feedback

- Oral feedback on a presentation
- Written feedback on a document

Professional Development

- Reflective journal
- Resume and CV
- Professional portfolio
- Informational interviews
- Workplace et



APPENDIX A: SAMPLE LEARNING CONTRACT

My Skills and Interests Summary from the IDP. <i>What specific skills do I want to develop in this course?</i>
Oral Presentations. <i>What kind of presentations do I want to try in the course?</i>
Written Communication. <i>What kind of writing do I want to try in the course?</i>
Media Communication. <i>What kind of media deliverable do I want to work on in the course?</i>
Designing and Leading Learning Events. <i>What kind of learning event do I design?</i>
Designing and Leading Seminars. <i>What sort of critical reading and thinking skills do I want to develop?</i>
Giving and Getting Feedback. <i>How do I want to develop the skills of constructive criticism?</i>
Professional Portfolios. <i>How do I want to be able to demonstrate my skills and knowledge?</i>
Self-directed Life Long Learning. <i>How do I want to develop my skills of reflection?</i>
Other?