Jay Dolmage, "Universal Design: Places to Start," *Disability Studies Quarterly*, 35 (2), 2015 (Appendix)

What follows is a long list of UD suggestions, organized according to some of the different modes of "delivery" or styles of teaching in higher education. You aren't expected to read this entire list, really – you can jump in anywhere. Please also visit the Wiki at www.UniversalDesignIdeas.pbworks.com to become a co-author of future problems and possibilities. I have concerns about the accessibility of the Wiki platform (see Taras et. al.). Thus, the entire list is produced here in this appendix in a screen-readable format– so that if the Wiki is not fully accessible to you, you can still access the list and email your comments, suggestions, and ideas to Dolmage@uwaterloo.ca.

PLACES TO START: UNIVERSAL DESIGN OF LECTURES AND PRESENTATIONS

Space:
o   Choose physically accessible locations for your classes. If you have a choice (or if you can otherwise make changes or "hack" the room selection process), select rooms with desks/chairs that are movable rather than with fixed seats. Think about the choices that students have for seating – does everyone not just have a place to sit/stand, but a choice of places to sit/stand? Once the room is full, will students still have choices? Will all students still be able to see/hear you? Will you be able to recognize the ways that they want and need to take part?

o   Consider providing your classes with information about accessibility features nearby (e.g. automatic doors, accessible washrooms, etc.).

o   Keep aisles clear, make sure the room is well-lit, at least at the beginning of class as students find their seats. (Later, you can think about what lighting conditions will be best for students during the presentation/teaching itself, to accommodate both vision as well as possible light sensitivity.)

o   Make sure that all students can easily leave the room if they need to. Consider letting students know that they are free to leave if they want or need to.

o   Make sure that all students can easily get up and move around if they need to. Consider letting students know that they are free to get up and move around if they need to.

Delivery:
o   Think carefully about your own access needs and try whenever possible to be clear with students about what you need to do to "deliver" in class.

o   Clearly communicate with students about what your goals for this lecture or presentation are. Don't assume that students know what the pedagogical purpose of the class is. This communication can come at the beginning of a class, or you could send an email (or announcement) the night before.

o   "Sign-post" your lecture or presentation. Tell students where you are about to go, and revisit where you've been. Like a pop song, great lectures have a chorus – key points that the speaker returns to throughout, and that will stick in the students' minds. When the lecture is over, involve students in re-capping the highlights.

o   Keeping background noise in the classroom to a minimum is very important for all students.

o   If you are speaking, force yourself to speak more slowly than usual, to pause more frequently than usual, and to repeat key ideas aloud. The goal is to sound clear – as though you were performing in a play, trying to have your voice heard over a crowd (or even speaking to the voice recognition software on a smartphone).

o   Think about where you will stand/sit/move during your lecture. It helps many students to be able to see your face and mouth while you speak, if you are speaking. So, how can you make that happen? Can you find an alternative way to write on a whiteboard or chalkboard, so that you don't turn your back to the class?

o   Try to keep your hands or other objects away from your face when speaking, avoid pacing, and try to pause video or audio instead of speaking over it.

o   Importantly, consider telling students what your own needs are as you deliver – from assistive technologies, to memory aides, to time constraints – if students understand your own processes, they can better develop their own.

o   Stand away from windows or bright lights and projectors, and leave some lights in the room on when you project an image – make sure you can still be easily seen if you are speaking.

o   Even if you don't think you need a microphone, it is almost always better to use one than not if you are speaking.

Redundancy:

o   Consider giving students guides or examples that show how they could take the most useful notes on the presentation or lecture.

o   Make large-print copies of all materials available as handouts or online. Even if you only lecture or present from a set of notes, sharing these notes can be tremendously helpful.

o   Post everything online before class: your lecture script or notes, your slides or web locations, pictures (perhaps with descriptions) and/or of the notes or figures you write on a whiteboard or chalkboard. If you can't post the notes ahead of time, post them afterwards. You might even post a set or two of student's notes on the lecture or presentation. Students can actually take turns posting their class notes and this can be a small assignment.

o   Make sure there is high colour contrast between the background and the text for any handouts. If you are giving a slide presentation that will be viewed via projector, the contrast often needs to be more pronounced than on printed material. Black text on a white background, or white text on a black background, are the easiest to read. Use larger font sizes and more slides rather than jamming a lot of text onto a few slides – that's better for everyone.

Translation:
o   Translate difficult ideas, words, and metaphors into plainer language. You don't have to lose the complex phrasing, but you should try to add a simpler one, too. Remember, also, that many anecdotes, lots of imagery, and some examples might be culturally specific. You don't have to lose these, but you do need to translate them. All of this translation also forces you to say things twice, which is helpful for everyone.

o   If you are showing images, websites, figures or slides, translate all visual material for students, regardless of whether it 'seems' like students in the class have visual impairments. It is good for all students, and for you, to clarify what you want students to see in a visual. Make sure that there is no relevant text on any slides, images, figures, or websites that isn't read aloud.

o   Make sure videos you show in class are captioned and that captions are turned on – this can help everyone.

o   It is also easier than you think to describe videos for students who can't see all of what is being shown – before you press play, tell students what they are about to see; when you press stop, recap what was seen.

o   Think about the content of videos and images and provide warning to students if any of the content could be upsetting or traumatic.

o   Make audio or video of your lectures available when possible – caption videos using free online tools like YouTube's automatic caption creator, or a service like Amara. Or

ask for help with captioning from your Disability Services office. If you provide audio or video, also provide transcripts. This increases accessibility, but studies also show that many students like to read transcripts *and* watch or listen at the same time.

o   Be willing to accommodate the needs of students who use adaptive technology such as closed-captioning, personal frequency modulation (FM) systems, teletypewriters (known as TTYs), amplified phones, closed-circuit television (CCTV's), large print computers and materials, Braille, and magnifiers.

o   Be ready and willing to work with sign interpreters or CART interpreters – in both cases, providing scripts in advance of lectures or presentations can be very helpful. Slow down when you are using big words or complicated phrases and spell out key names. Allow the ASL interpreter to sit or stand near you so the student can watch you and "read your words" at the same time by watching the interpreter. Watch the student, but listen to the interpreter when they are interpreting what the student is saying; speak to the student and not to the interpreter. Take short breaks in your speaking to allow the interpreter to catch up; also, plan a 10-minute break for every 50 minutes of class presentation, as interpretation requires a great deal of concentration and endurance. Be aware that interpreters are bound by their professional code of ethics to interpret all spoken messages while in the presence of the student, including informal chatting. When video material is not close-captioned, provide enough light to allow the student to see the interpreter; the interpreter also needs to be positioned near the viewing screen so that the student can see the interpreter and the video simultaneously. Be aware that interpreters often work in pairs, with each interpreting 20 to 30 minute segments. This is because of the need for a high degree of concentration and because of the physical demands of the work. Don't be concerned with the initial distraction that the interpreter's hand movements may cause for the rest of the class; tests show that people quickly become accustomed to the interpreter's presence. Advise the Office for Students with Disabilities if you are planning to cancel a class or change locations, such as taking a field trip. Interpreters are hired on an hourly basis, so advance notice of changes helps reduce costs and allows for better use of the interpreter's skills.

Interaction:
o   Allow breaks during class – for students to move around, talk with one another, or just to relax quietly. Creating breaks also allows students to catch up on and digest what has been discussed.

o   The "think, pair, share" approach allows for productive breaks. Give students a question or problem; give them time to think of their own answers; pair them up to discuss; then ask some groups to share with the entire class. This approach also allows "tolerance for error" – sometimes students need low-stakes opportunities to get things wrong or to air hypotheses and take risks in their thinking.

o   Circulate note cards for students to write questions or comments, or to answer your questions, perhaps anonymously, and collect and address them. If you plan to *just* lecture in a class, with no discussion, still circulate and collect these cards to find out whether

students have really understood all you have said. You'll be surprised – just because we deliver it doesn't mean students retain it.

o   Have students take turns taking class notes on whiteboards or on large flipchart paper, and then post the notes around the classroom for future reference—keep them up all semester—build running answers to pertinent and revisited questions

o   Give students chances to comment on the lecture or presentation and thus to help revise it for next time—ask students how the class might accommodate them, but also create venues for all students to negotiate for change. Show them how you are being responsive. Make note of one thing from each lecture or presentation that you want to change or vary for the next one. Share this process with students whenever possible. Change your lecture or presentations every semester to respond to what you learned from the last class you taught.

Finally…
o   Alter the ways you organize and deliver lectures or presentations. Too often, we compose these materials in the ways that make best sense to us, or in the ways we remember they were delivered to us. But everyone learns differently. Try something new, invite someone else to deliver your materials (or their own), have a day where all of the materials and discussions take place online in a networked classroom. Innovate.

PLACES TO START: UNIVERSAL DESIGN OF QUESTIONS AND DISCUSSION

Space:
o   As always, keeping background noise in the classroom to a minimum is very important for all students. One student speaking at a time is important if all students are expected to listen.

o   Think about where you will stand/sit/move during this activity. It helps many students to be able to see your face and mouth while you speak if you are speaking. How can you make that happen? Can you find an alternative way to write on a whiteboard or chalkboard, so that you don't turn your back to the class?

Ground Rules:
o   Clearly communicate with students about how much time you have for questions or discussion, and what you are looking for from this time. Do you ideally expect every student to have a question? Are you looking for problem-posing, questions of clarification, extensions, applications, critique? Don't assume that students know what the pedagogical purpose of the discussion is.

o   Review past material as you begin.

o   Remind students that they need to be clearly heard: they should keep hands, glasses or other objects like pens or pencils away from the face when speaking; they may need to speak more slowly than usual if possible; translate difficult ideas, words, and metaphors into plainer language, and so on. They may also need assistive devices.

o   It is important to remember that *both* those delivering and those receiving messages need accommodations.

o   Even if you don't think you need a microphone, it is almost always better to use one than not if you are speaking – so if you have a wireless microphone, get students to use it too.

o   Ask students to state their name before they begin speaking – or ask them if they are comfortable with you stating their name to introduce them as the speaker.

Interaction:
o   Be ready and willing to work with sign interpreters or CART interpreters during question and discussion periods. Slow down when you are using big words or complicated phrases and spell out key names, and urge students to do the same. See all of the above advice about working with interpreters during lectures.

o   If students are having trouble communicating, avoid making remarks such as: "Slow down," "Take a breath," or "Relax." This will not be helpful and may be interpreted as

demeaning. Avoid finishing the person's sentences, or guessing what is being said. This can increase their feelings of self-consciousness.

o   Force yourself to speak more slowly than usual, to pause more frequently than usual, and to repeat key ideas aloud.

o   Silence in the classroom is okay – it is actually good – and if you become comfortable with it, students will too.

o   Remember that not all students are comfortable with extended direct eye contact.

o   Repeat the key point of all comments or questions for the rest of the class, using your microphone if possible. For instance: "Jennifer just asked..."

o   After you ask students a question, count to at least five in your head before answering it yourself. When you ask students a question, if you really want them to think and be able to give an answer, be willing to wait for it, then be willing to wait a little longer.

Alternatives:
o   Allow students to ask questions or share ideas in class anonymously, or without speaking 'out'—circulate note cards for students to write questions or comments, or to answer your questions, perhaps anonymously, and collect and address them.

o   Give students low-stakes opportunities to think and discuss content – this is "tolerance for error" – students sometimes need to get things wrong, take risks, or try out different ideas to learn.

o   Provide ways for students to volunteer ideas or questions without raising hands. For instance, create a comment or question box you can pass around, take questions online before, during, or after the discussion, and so on.

o   Facilitate smaller discussions among students before you ask students to share with the entire class. Many students need some time and space to try ideas out with one another first. This also gets many more students involved.

o   Facilitate smaller activities – like an opportunity to write or solve problems quietly for a few minutes – before discussion and questions start, so that students have time and space to compose their thoughts. You might even consider asking students to pass these ideas around the room to share with one another, as long as you have warned them in advance that you will do so.

o   Use online resources and content management systems when possible to extend class discussions. Students won't all get the chance to contribute in a large lecture, so offer the opportunity somewhere else. Students should be given many different opportunities and spaces in which to participate (and to be graded for participation).

o   As a larger general rule, develop a wide range of ways to be "present" and to "participate" in class – these alternatives can speak to the many ways we have to be present and to participate in discourse in the contemporary work and social world. What if students were asked to summarize your lecture in 140 characters, as a cartoon, a chart, a map?

o   Have students take turns writing down questions and answers on whiteboards or on large flipchart paper, and then post the notes around the classroom for future reference—keep them up all semester—build running answers to pertinent and revisited questions.

PLACES TO START: UNIVERSAL DESIGN OF GROUP WORK, COLLABORATION AND IN-CLASS ACTIVITIES

Getting Started:
o   Think carefully about how students will be physically arranged in groups – will it be easy for groups to form and for all students to be comfortable?

o   Think about how the layout of your classroom will impact volume – will students really be able to hear one another clearly? How can you moderate the activity to control volume?

o   Consider a variety of different ways to assign students to groups – rather than the default of allowing them to always choose their own groups.

o   Insist on professional, civil conduct between and among students to respect people's differences and create an inclusive environment.

o   Talk to students about their past experiences with group work and allow them to establish some ground rules for successful collaboration. This discussion can be successfully done anonymously through the use of note cards.

o   Offer detailed and step-by-step instructions in a variety of ways – on the board, on handouts, and verbally. Don't just assume that students will "figure it out."

Making Connections:
o   Clearly communicate with students about what your goals are for these activities. Don't assume that students know what the pedagogical purpose is. Connect these activities to larger class themes whenever possible.

o   Scaffold or build these smaller activities towards large assignments so that students understand the trajectory of their work and so that they develop materials and knowledge—so that they have these materials and this knowledge with them when they tackle a larger assignment, and are enabled to continue the creative process rather than saddled with the responsibility to begin it—this also combats procrastination and plagiarism.

Interaction:
o   Take part in these activities yourself when possible – not as an expert but as a peer.

o   Use smaller activities to invite a variety of literacies and learning styles – not just reading, speaking, writing.

o   Design collaborative work in multiple constellations and forms—pairs, small groups, large groups, online synchronously and non-synchronously, etc.—set alignments might privilege certain students and relationships. For instance, some students might be better at contributing after they have had time to digest material, while others might be better at

thinking on the spot; other students will defer to others in large groups but actively contribute in pairs; all roles should be valued and included.

o   Think carefully about how students will communicate and solve problems with one another – will the default be that they always have to speak up in front of their group? Will you just let them define their own roles? How can you make some changes that offer alternative modes of engagement and communication, value a variety of ways to contribute, and disrupt default power dynamics? For instance, consider creating some roles and rules that encourage students to build consensus, check in with all group members, and so on.

o   Consider flexible timelines in and out of class – be very careful about asking for activities to be completed quickly. Timed activities rarely elicit the best thinking or teamwork and more often elicit the opposite. Above all else, clarify your learning goals if you want students to be put under "pressure."

o   Remember that not all students are comfortable with extended direct eye contact and other forms of social interaction. Ensure that students get the chance to take breaks from intense social situations.

o   Just as there are many different ways to participate as part of a work or social group, there should be many different valued roles within classroom groups – and there should be flexible ways to earn grades and credit for contributions.

PLACES TO START: UNIVERSAL DESIGN OF LARGE ASSIGNMENTS

Planning Ahead:
o   Clearly communicate with students about what your goals are for any assignment. Don't assume that students know what the pedagogical purpose of the assignment is. Have a discussion about your goals and desired outcomes, and help students understand how specific aspects of the assignment fit these goals. Be open to making some changes if students have ideas to offer.

o   Communicate about assignments as early as possible in a semester, and help students schedule and plan for them.

o   Show examples not just of ideal assignment submissions from the past, but also of submissions that were unique, so that students see what you are looking for, but also so that they realize a range of possibilities. You can model "tolerance for error" in many ways – that is, there shouldn't just be one way to get things right.

o   Make large-print copies of all materials available; post everything online. Give clear assignment instructions and make prompts available in multiple formats.

o   Scaffold or build activities towards large assignments so that students understand the trajectory of their work and so that they develop materials and knowledge—so that they have these materials and this knowledge with them when they tackle a larger assignment, and are enabled to continue the creative process rather than saddled with the responsibility to begin it—this also combats procrastination and plagiarism.

Flexibility:
o   If the assignment is to be completed in class, consider the impact that increased pressure might have on students – not all students think or create at the same pace. If taking the assignment home and completing it more slowly might increase student learning and performance, then why not extend that accommodation to all?

o   Recognize that students can express understanding essential course content in multiple ways. Diversify assignments or allow for exceptions to allow all students to demonstrate their specific talents (e.g. oral presentations, poster presentations, written assignments).

o   Consider flexible deadlines.

o   Consider creating flexible intermediate deadlines – guidelines for when particular stages or parts of the assignment should be completed, so that students can see what the different steps in a process might be.

o   If possible, allow students to share draft work with you and with their peers, and then to revise.

o   Offer students performative options; allow for some flexibility in terms of the delivery of assignments. Could an essay turn into a podcast? Could students leave a draft of a research question on your voicemail or email?

Communication:
o   Make time to meet with students individually as much as possible to assist with every step in the process, from clarifying the assignment, to brainstorming, to polishing.

o   Show students how you expect them to perform highly specialized tasks like researching, quoting, citation, formatting. Most students never have a teacher show them explicitly how to do these things. Remember that the rules for these specialized tasks change from teacher to teacher, discipline to discipline, and culture to culture.

o   Be willing to offer instruction, and accept student work, at a distance

Feedback:
o   Don't be hyper-corrective—focus on content when you are evaluating work, and circle mistakes rather than fixing them. If you really want students to learn from their mistakes, help them identify one problem at a time.

o   Consider using rubrics so long as students can fully understand them, they are provided well in advance of assignment due dates, and they are discussed in class. Consider developing these rubrics *with* students as a way to increase their understanding of your learning goals and of the assignment.

o   Discuss the difference between summative, constructive and critical feedback. Always try to offer feedback that helps students improve their work, even if that improvement is for another class or another time.

o   Consider using an MP3 recorder or video chat for comments on student assignments—try different modes and allow students to choose modes of response that are most accessible for them.

Products and Processes:
o   Create accessible and perhaps 'searchable' venues for students to archive all of their work—all of the drafts of each paper, all of their informal writing, and so on—something like a content management site or blog or portfolio.

o   Try to create opportunities to revisit work and trace patterns in their 'development' so that students can become reflective and ultimately have a 'meta' understanding of the products/processes of academic work.

o   Discuss your own working process: the ideal scene for your work, the personal supports you have or try to create, your own blocks and difficulties. Students can benefit from seeing how their instructors work. At the same time, recognize that there are many

different learning styles, and that most students won't work the same way that their teachers do, and that this is a good thing.

o   Use online resources and content management systems when possible, and use them redundantly—use discussion boards, post content for classes, use space for drafting and peer response. Create online spaces for students to help one another with assignments.

o   Make a serious effort to understand and welcome cultural differences that might impact student learning processes and the "products" they create.

o   Ask students to help you revise assignment prompts for the next time you teach the class, and/or to write down some advice they would give to future students for succeeding at an assignment.

PLACES TO START: UNIVERSAL DESIGN OF TESTS AND EXAMS

Planning Ahead:
o   Clearly communicate with students about what your goals are for any test or exam. Don't assume that students know what the pedagogical purpose of the test or exam is. Have a discussion about your goals and desired outcomes, and help students understand how specific aspects of the test or exam fit these goals. Be open to making some changes if students have ideas to offer.

o   Point out the important sections in course plans, textbooks and readings to guide test and exam preparation; where possible, provide multiple samples of tests and exam questions and answers.

o   Allow for the use of adaptive technology (e.g. screen-readers, screen enhancement software such as screen magnification). Experiment with these technologies with all students when possible.

o   If possible, online tests should be tested themselves for accessibility. Ensure that a student can navigate them using an assistive technology such as a screen reader to read aloud the information on the screen, or screen enhancement software that allows the user to magnify the computer screen or change the contrast.

o   For exams that have graphic content (charts, maps, illustrations), it's best to call on the Office for Students with Disabilities to have the material transcribed into a format that's accessible to the student; if needed, you can provide an alternate evaluation method.

Accommodations For All:
o   Accommodations often allow for, when possible, the use of memory aids in tests and exams. Consider this for all students, especially if the goal of the exam is to test something like critical thinking or problem-solving rather than memorization.

o   Accommodations often allow for, when possible, extra time on tests and/or examinations. Consider this for all students, especially if the increased pressure of a timed exam might detract from other more important pedagogical goals.

o   Accommodations often allow for, when possible, students to take exams home and complete them on their own time. Consider this for all students, especially if the increased pressure of a timed and/or in-class exam might detract from other more important pedagogical goals. As a thought experiment, ask yourself this: could you write a publishable article following the conditions under which you set your tests or exams?

o   Accommodations often allow for, when possible, the use of a separate, distraction-free room for writing tests and/or examinations. Consider this for all students. That is, consider where the exam is taking place, and how that space might create barriers to ideal performance and learning. Would it be better to move to another space for the exam, to

give students a choice of times to write the exam in smaller groups, or the chance to make suggestions about ideal times and places to write the exam? As a thought experiment, ask yourself this: could you create a publishable article in the times and places in which you set your exams?

o   When possible, allow the use of a calculator, dictionary, computer and word processor with spell-check, as needed, for all students.

Alternatives:
o   Offer alternatives to traditional course work and methods of evaluation (e.g. an oral exam or presentation instead of a written exam; or essays instead of multiple-choice and short-answer questions).

PLACES TO START: UNIVERSAL DESIGN OF INTERACTION ONE-ON-ONE WITH STUDENTS

Spaces:
o   If the student is coming to your office, ensure the office is arranged in such a way that a person with a mobility device has access. Remove obstacles and arrange furniture to give clear passage to where you will sit and conduct the meeting.

o   Consider an assistive device as an extension of the person's personal space; don't hang or lean on a wheelchair, or other devices, never try and take over the controls.

o   If a conversation is expected to last longer than a few moments and your office is not able to accommodate a chair or scooter easily, suggest an area nearby that is comfortable for all parties to be seated.

o   Never assume that an individual can or should transfer from one assistive device into another, or into a chair.

o   Pay attention to the meeting rooms and spaces around your office, and meet with *all* students in the room that is most accessible, as a matter of principle.

o   When giving directions to your office or meeting space, assume that everyone needs to use accessible entrances, elevators, and so on.

Interaction:
o   Speak normally, clearly and directly to the person in front of you.

o   Some people may take a little longer to understand and respond, so exercise patience.

o   Listen carefully and work with the person to provide information in a way that will best suit their needs.

o   Remember that not all students are comfortable with direct eye contact.

o   If you haven't understood, do not pretend that you have; ask the person to repeat the information.

o   Ask truly open-ended questions when possible and exercise a very high "tolerance for error" – students need to be given opportunities to think for themselves, think through questions with you, and to get things wrong.

o   If students are having trouble communicating, avoid making remarks such as: "Slow down," "Take a breath," or "Relax." This will not be helpful and may be interpreted as demeaning. Avoid finishing the person's sentences, or guessing what is being said. This can increase their feelings of self-consciousness.

o   When you approach a person with a visual impairment make sure you identify yourself and speak directly to them. Do not assume that the person cannot see you.

o   If you are leaving a room or the presence of someone with a visual disability, be sure to let them know that you are leaving and whether or not you will be returning.

Assistance:
o   Ask permission before touching anyone, unless it is an emergency.

o   If you are not sure what to do, ask, "Can I help?"

o   Allow students to bring their service animal with them into your office or classroom; Avoid talking to or petting a service animal; this distracts the animal from its tasks; Do not feed or offer treats to the animal; Avoid deliberately startling the animal; Remember, not all service animals wear special collars or harnesses; if you're not sure and you need to verify, it's okay to ask the owner if it is indeed a service animal.

o   If someone needs mobility assistance, offer your arm to guide the person – allow them the time to tell you whether they do or do not want help. Walk at a normal pace if you are guiding someone. Be precise and clear when giving directions or verbal information – for example, if you are guiding someone with a visual disability and you are approaching a door or an obstacle, say so. Identify landmarks or other details to orient the person to their environment.

Translation:
o   If you are communicating through an interpreter, look at and speak directly to the person, not their interpreter. Speak as you would regularly. Make sure you are in a well-lit area where the person can see your face. Keep hands away from your face. If in doubt, as for clarification to ensure you have been understood. Try to hold your conversation in a quiet area, as background noise may be distracting

o   Be patient. If the person's first language is a visual language (American Sign Language (ASL) or is not English, communication may take longer or be approached slightly differently than you are anticipating. Remember, the person is actually communicating in a second or third language.

o   Repetition, clear enunciation, and plain language can help everyone you speak with.

o   Help students take notes as you speak with them, or take notes for them – don't assume they will simply remember everything you say to them.

Resources:
o   Treat a person with a mental or psychological disability with the same respect and consideration that you do anyone else. Be confident and reassuring. Listen carefully and work with the person to meet their needs. If someone appears to be in a crisis, ask them to

tell you how you can be most helpful. You can refer the student to counseling, offer to call on their behalf, or walk them over in person.

o   Learn about the resources available on campus or in the community to assist persons with mental or psychological disabilities.

PLACES TO START: UNIVERSAL DESIGN IN A LABORATORY SETTING

Space and Equipment:
o   Investigate the lab space before your first class. Make sure there is enough room in the lab for all students, there are enough accessible benches and tables, etc. Call your office of Disability Services if you are at all worried about the accessibility of the space.

o   Provide your classes with information about accessible features of the immediate environment (e.g. automatic doors, accessible washrooms, etc.).

o   Make sure that there is a quiet space near the lab where students can go to escape from the stress, noise, and stimulation of the lab – and make sure all students know where this is, how to get there, and when they can do so.

o   Think carefully about how students will be physically arranged – will it be easy for all students to be comfortable and to feel safe?

o   Keep aisles clear and make sure the room is properly lit – consider light sensitivity.

o   Keeping background noise in the lab to a minimum is very important for all students.

o   Think about how the layout of your lab will impact volume – will students really be able to hear one another clearly? How can you moderate the activity to control volume?

o   Think about where you will stand/sit/move during the lab. It helps many students to be able to see your face and mouth while you speak if you do speak. How can you make that happen? Can you find an alternative way to write on a whiteboard or chalkboard, so that you don't turn your back to the class?

o   Discuss safety concerns both with the student and with staff in the disability services office as well as laboratory support staff. Remember, there is a long history of constructing people with disabilities *as* the safety concern – be conscious of this stereotype and avoid it.

o   If appropriate, in a private conversation with the student about their accommodation needs, discuss the ways the lab can be made accessible – how can you accommodate interpreters, service animals, assistive devices, and so on? How can students best work with and assist their lab partners – and be assisted – like all other pairs.

Before You Begin:
o   Make large-print copies of all materials available; Make sure there is high colour contrast between the background and the text for any handouts.

o   Insist on professional, civil conduct between and among students to respect people's differences and create an inclusive environment.

o   Talk to students about their past experiences with lab work and allow them to establish some ground rules for successful collaboration. This discussion can be successfully done anonymously through the use of note cards.

o   Clearly communicate with students about what your goals are for lab activities. Don't assume that students know what the pedagogical purpose is. Connect these activities to larger class themes whenever possible.

Interaction:
o   Offer detailed and step-by-step instructions in a variety of ways and in multiple formats – online before class, on a whiteboard or chalkboard, on a handout, etc. Don't just assume that students will "figure it out."

o   Take part in these activities yourself when possible – not as an expert but as a peer.

o   Think carefully about how students will communicate and solve problems with one another – will the default be that they always have to speak up? Will you just let them define their own roles? How can you make some changes that offer alternative modes of engagement and communication, value a variety of ways to contribute, and disrupt default power dynamics?

o   Consider flexible timelines – be very careful about asking for activities to be completed quickly. Timed activities rarely elicit the best thinking or teamwork and more often elicit the opposite.

o   Allow breaks during the lab – for students to move around, talk with one another, or just to relax. Creating breaks also allows students to catch up on and digest what they have been doing.

o   Circulate note cards for students to write questions or comments, perhaps anonymously, and collect and address them during breaks. Many students feel it is a sign of weakness to ask for help or to admit that they don't understand.

PLACES TO START: UNIVERSAL DESIGN GENERAL SUGGESTIONS

Flexibility and Reflexivity:
o Use different instructional methods to meet the needs of the greatest number of learners.

o Talk about teaching with fellow teachers, and with non-teachers, so that you can develop reflexivity about your pedagogy. Keep a teaching journal.

o Be open to learning about disability as a political identity, and about Universal Design as a political movement, to keep the practice rooted to its origins.

Course Materials and Discourse:
o Language matters – For more information on language use and disability, read the Syracuse University [Guide to Disability Language and Empowerment](#).

o Make sure that if you distribute PDFs, they are screen-readable. See this resource on [Creating Accessible PDFs.](#)

o Make sure that if you have created your own course webpage, it passes basic accessibility guidelines. You should be sure to use the [WAVE web accessibility assessment tool](#) to find out what you need to do to make sure the site is as accessible as possible.

o Choose course materials early. If you are assigning a number of readings, this will allow you enough time to have the documents converted into alternative formats or for students to request the formats they need. Making these materials available to all students will also really help all students.

o If possible, choose accessible electronic versions of course readings. This will allow students the ability to convert the reading into the format required, whether they use a screen reader, an enlarger or other technology. Be as precise as you can with regards to the texts and pages that will be used. This will help all students.

o Ensure course packs are complete. Please note that some PDFs (Portable Document Format files) are not accessible to students using a screen reader; choose tagged and accessible PDFs, which may be read by assistive technology. Your Office of Disability Services will help you make all PDFs accessible.

o Provide an organized, well-written and complete syllabus including required readings, assignments, due dates and defined expectations, as early as possible; Consider providing all students with the course outline, the list of reading requirements and copies of all overhead materials, slides or handouts, etc. in an accessible, digital format, whenever possible. All students can benefit from having these materials ahead of time.

o   When digital formats are not available, provide print material sufficiently far in advance to ensure that transcription requirements (for example, into audio-digital or other e-format, enlarged format or Braille) can be met in time. Be as precise as you can with regards to the texts and pages that will be used.

o   Ensure course packs are clearly legible, defect-free and complete.

Disability and Disclosure:
o   Encourage students to tell you about any accessibility concerns. But also let them know that you do not need to know what their disability is in order to make your classroom and your teaching fully accessible. You can do this both verbally early in the semester and by having an accessibility statement on your syllabus. Indicate that such conversations are confidential and are strictly for the purpose of facilitating any learning needs or accommodations that may be in place. Too much of the time, the disability statement on the syllabus is the *only* time disability is addressed in the class, and this only ensures that stigma persists and that accommodations are a secondary concern.

o   If a student who is not registered with the Disability Services Office discloses to you that they need an individual accommodation, refer them to the appropriate process in your institution, but also make the effort to accommodate their needs, just as you would for any student.

o   Discuss your guidelines for classroom behavior and interaction openly with students right away in the course, and detail your expectations in your syllabus. Show how you will also follow a set of guidelines for your own conduct.

o   Discuss inappropriate classroom behavior with students privately if it is a problem in class. Directly outline the limits of acceptable conduct. In your discussion with the student, do not attempt to diagnose or treat them.

o   If the student approaches you for therapeutic help, refer the student to the counseling department.

o   If you are concerned about a student and unsure whether or not to intervene, seek appropriate supports on your campus.

Expectations:
o   Avoid making assumptions or generalizations about a person's disability or capabilities; many persons with disabilities talk about being frustrated with people assuming what they can or cannot do, or trying to diagnose them. The least dangerous assumption you can make is that all students are competent and capable of brilliance.

o   Remember that in the modern classroom, there are many ways to be "present" and to "participate." Reevaluate your course participation and attendance policies to be certain that they are assessing what you want them to assess, encouraging what you want to encourage, and that there aren't other options that can accomplish the same goals. For

instance, if you value the exchange of ideas, does it matter whether this happens in class or online?

o   It may take a student with a physical disability longer to reach classrooms. Try to be considerate of this if the student is coming from across campus, if the weather is bad, or if your classroom is poorly located.

o   Field trips and transportation need to be planned with accessibility in mind. Contact your disability services office to discuss any potential considerations and to seek advice on changes you may need to make; Plan activities at accessible locations so that all students can participate, or, as a last resort, substitute an alternative activity with the same learning outcomes; Provide additional time for the activity and for transportation; Always allow for the use of adaptive technology (e.g. screen-readers or screen enhancement software such as screen magnification) wherever class is taking place.