

Pain: Body and Mind

Psyc 429

Fall, 2020

Instructor: Dr. Tim Salomons

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Office Hours: Monday 4-5 (EST) via Microsoft Teams, or by appointment

Intended Student Learning Outcomes

To complete this course students will demonstrate their ability to:

1. Identify and analyze critical issues in pain research and treatment
2. Examine the link between structure and function in pain mechanisms
3. Compare, contrast, and synthesise arguments pertaining to these issues, providing empirical support

Course Outline

WEEK 1	(08/09-14/09)	Introduction and Opening Discussion
WEEK 2	(15/09-21/09)	What is Pain? Why is it “sensory” What is pain? Why is it “emotional”
WEEK 3	(22/09-28/09)	New definition of pain Pain: Body and Mind
WEEK 4	(29/09-05/10)	Pain Physiology (periphery to spinal cord) Specificity vs. pattern theories
WEEK 5	(06/10-12/10)	Pain Physiology (Brain)
WEEK 6	(13/10-19/10)	Do Fish Feel Pain?
WEEK 7	(20/10-25/10)	Pain measurement and clinical barriers
WEEK 8		NO ASSIGNMENTS
WEEK 9	(03/11-09/11)	Chronic pain: Disorders and treatments

WEEK 10	(10/11-16/11)	Are opioids worth the risk?
WEEK 11	(17/11-23/11)	Pain Psychology: Individual differences
WEEK 12	(24/11-01/12)	Pain Psychology: Models and Interventions

GRADING

Quizzes	15%	End of Day Monday
Reaction Paper	25%	See presentation schedule
Final paper	45%	December 7 th
Participation	15%	

Grading Method

All components of this course will receive numerical percentage marks. The final grade you receive for the course will be derived by converting your numerical course average to a letter grade according to Queen’s Official Grade Conversion Scale:

Queen’s Official Grade Conversion Scale

Grade	Numerical Course Average (Range)
A+	90-100
A	85-89
A-	80-84
B+	77-79
B	73-76
B-	70-72
C+	67-69
C	63-66
C-	60-62
D+	57-59
D	53-56
D-	50-52
F	49 and below

Late Policy: For the final paper, there will be a late penalty of 5% per day. As the reaction papers are intended to foster discussion in a particular week, late penalties are 15% per day. If you know you might have a scheduling conflict for your reaction paper, contact me at least a week in advance, or arrange to trade slots with another student (let me know in advance if this is the case).

For weekly multiple choice questions, late submission is not possible and students who have not submitted prior to Monday at midnight will not receive any credit for those questions.

Quizzes

To ensure you are familiar with the readings, and ready to talk about them in the Discussion forum and in response to your peers’ reaction papers, there will be a weekly multiple choice quiz. Students who do the readings should do well on the questions.

Multiple choice questions will be made available in OnQ at 9am on Sunday each week and will be directly based on the readings for the coming week. They can be completed in an “open book” fashion but you will only have 20 minutes to complete a quiz consisting of 5 questions, so it is highly recommended that you complete the readings prior to starting the quiz. **You will have one chance to complete the quiz, so do not start the quiz unless you are ready to complete it.**

There might be technical issues that arise on your end while you are attempting to complete the quiz, or circumstances might prevent you from completing it one week. It isn't feasible for me to judge the validity of these issues on an individual basis so to account for such issues, everyone's worst two quizzes will be dropped from their final mark. Grades will be released after the quiz has closed for everyone.

Quiz Schedule	Opens	Closes
WEEK 2 Readings:	13/09 09:00am	14/09 11:59pm
WEEK 3 Readings:	20/09 09:00am	21/09 11:59pm
WEEK 4 Readings:	27/09 09:00am	28/09 11:59pm
WEEK 5 Readings:	04/10 09:00am	05/10 11:59pm
WEEK 6 Readings:	11/10 09:00am	12/10 11:59pm
WEEK 7 Readings:	18/10 09:00am	19/10 11:59pm
WEEK 9 Readings:	01/11 09:00am	02/11 11:59pm
WEEK 10 Readings:	08/11 09:00am	09/11 11:59pm
WEEK 11 Readings:	15/11 09:00am	16/11 11:59pm
WEEK 12 Readings:	22/11 09:00am	23/11 11:59pm

Reaction Papers

Every week there will be a few issues arising from the readings and/or podcasts that are worth discussing at more length. You will be (randomly) assigned to a topic (and a “focus paper” from that week's reading). Write a 400 word reaction paper on the topic and email it to the instructor, who will post it on Feedback Fruits in OnQ. You are free to take a position on the subject, but it is expected that you will support your thoughts/arguments with reference to the appropriate scientific literature. 20% of your mark will be for discussion, so engage with those who engage with you (see **Participation** section below). You are not obligated to respond to every comment on your reaction paper (sometimes a discussion takes on a life of its own!), but you're expected to make a good effort to foster interesting discussion on your topic.

A strong reaction paper will:

- Make compelling, coherent arguments
- Be engaging and well written
- Provide empirical support
- Link to course themes and readings

Good discussion engagement will:

- Be inclusive, bringing people into discussion
- Be unafraid to question or challenge where appropriate, but always civil and respectful.
- Respond early to allow your peers time to respond to your discussion comments (i.e. don't wait until the week is nearly over to go and respond to your peers' comments). Remember that your aim is to provoke further discussion and your peers are being encouraged to comment on the current week's material.

Participation

The goal of the course is to foster informed discussion of important topics in basic and clinical pain science. Discussion can't occur without participation, so 15% of the mark will be given for participation in discussions throughout the course. Participation will be primarily in the form of comments on the podcasts and on your peers' reaction papers. In videos, I will post some questions that you can respond to. You are also able to comment in other places in the videos if something has caught your attention.

A sub-goal of the course is to develop your ability to communicate about science in online forums in a concise and productive way. As such, I'd like you to try and limit your comments to 280 characters (like a tweet!). This is not a strict limit (the software won't allow me to constrain comment length, nor am I particularly inclined to go through and check), but I want to strongly encourage you to keep responses short, as this not only helps you practice "saying a lot with a little" (a highly underrated skill in academics!), but will make it easier and more fun for others to read, and will save you from feeling like your every comment has to be an essay. Similarly, you are welcome to comment as often as you like (the point is good discussion after all!), but I want to avoid an "arms race" where people see others commenting multiple times on every post and feel they have to "keep up". Here are some guidelines on what constitutes good participation:

*Try to make at least one substantive comment on each reaction paper or podcast. A substantive comment might take the form of a good question, a reference to another work of interest, a thoughtful comment connecting the topic to other material discussed in the course, or anything that is thought-provoking and/or shows you've read/watched and engaged with the content you're commenting on. Encouraging comments (e.g. "Great summary!") are welcome and encouraged, but won't, by themselves, count as substantive comments. As mentioned above, while you are free to comment more often, if you've added a good comment to each posting, there is no need to add more simply because you see others doing so (I'm happy to see more, but don't want anyone to feel pressured to "keep up" – this should be for fun and interest).

*The expectation is that you will comment on the current week's lectures/reaction papers in the week they are posted. The point of the assignment is to foster discussion, so we want people focused on the same material at the same time. Consider your comments "due" at end of the current week. This is a soft deadline and you may obtain partial credit for going back and adding comments to previous weeks' discussion, but only do so after you have commented on the current week's material.

*Engage with your peers. A thought-provoking comment on its own is great, but a thought-provoking comment that builds off what someone else has said, or encourages others to participate is even better!

*Be civil! Discussion without any disagreement or challenge isn't really discussion, but if you can't find a way to do so without belittling or insulting others, you've failed. The University's Discussion Guidelines are included below. Comments that are judged to be in violation of these guidelines will be flagged (probably in the form of an email from the instructor) and potentially removed. Repeat offences may result in loss of participation marks and even a ban from discussion forums. As a rule of thumb, talk to people as if you were chatting face to face.

*Spread the love around: Don't only engage with the same people every week (or if you do, make sure you engage with others as well). Try to engage with comments or topics that haven't received as much feedback. Let's make this a place where everyone has the chance to get involved!

*Don't overthink the grading on this – if you participate and do your best to make the discussions interesting and productive, you will do well.

How to comment on interactive videos

<https://help.feedbackfruits.com/en/articles/2640125-interactive-video-student-perspective>

How to create and comment on interactive documents

<https://help.feedbackfruits.com/en/articles/2268427-interactive-document-student-perspective>

Queen's Discussion Guidelines

University is a place to share, question and challenge ideas. Each student brings a different lived experience from which to draw upon. To help one another learn the most we can from this experience please consider the following guidelines.

1. Make a personal commitment to learn about, understand, and support your peers.
2. Assume the best of others and expect the best of them.
3. Acknowledge the impact of oppression on the lives of other people and make sure your writing is respectful and inclusive.
4. Recognize and value the experiences, abilities, and knowledge each person brings.
5. Pay close attention to what your peers write before you respond. Think through and re-read your writings before you post or send them to others.
6. It's ok to disagree with ideas, but do not make personal attacks.
7. Be open to being challenged or confronted on your ideas and to challenging others with the intent of facilitating growth. Do not demean or embarrass others.
8. Encourage others to develop and share their ideas.

Final Paper

The final paper will be a more in-depth discussion (approximately 1000 words, no more than 1500) of one of the topics discussed in the course. You may choose any of the topics raised in the videos or reaction papers **except the one you wrote your original reaction paper on**. You may choose your own topic. Final papers should include references (but final reference section will not be included in word count). More guidance on the Final paper will be made available in OnQ.

READING LIST

WEEK 1

No readings (start on next week's readings!)

WEEK 2

Required Readings

Melzack and Wall (1996) "Pain and Injury: the Variable Link" in The Challenge of Pain 2nd Edition, pp. 4-14

Williams AC, Craig KD. (2016) Updating the definition of pain, *Pain* 157(11):2420-2423.

Cohen, M., Quintner, J., & van Rysewyk, S. (2018). Reconsidering the International Association for the Study of Pain definition of pain. *Pain reports*, 3(2): e634. doi: [10.1097/PR9.0000000000000634](https://doi.org/10.1097/PR9.0000000000000634)

Aydede M (2017) Defending the IASP Definition of Pain, *The Monist* 100 (4):439–447 (stop at "Objections to the IASP definition and their rebuttals")

Fields, Howard L. "Pain: an unpleasant topic." *Pain* 82 (1999): S61-S69.

Suggested Readings

Rebuttal to Williams & Craig: Wright, A., & Aydede, M. (2017). Critical comments on Williams and Craig's recent proposal for revising the definition of pain. *Pain*, 158(2), 362-363.

And reply by Williams & Craig *Pain*, 158(2), 363-365

Aydede M (2017) Defending the IASP Definition of Pain, *The Monist* 100 (4):447–464 (starting at "Objections to the IASP definition and their rebuttals")

Duncan, G. (2017). The Meanings of 'Pain' in Historical, Social, and Political Context. *The Monist*, 100(4), 514-531.

WEEK 3

Required Readings

Raja, Srinivasa N.^a; Carr, Daniel B.^b; Cohen, Milton^c; Finnerup, Nanna B.^{d,e}; Flor, Herta^f; Gibson, Stephen^g; Keefe, Francis J.^h; Mogil, Jeffrey S.ⁱ; Ringkamp, Matthias^j; Sluka, Kathleen A.^k; Song, Xue-Jun^l; Stevens, Bonnie^m; Sullivan, Mark D.ⁿ; Tutelman, Perri R.^o; Ushida, Takahiro^p; Vader, Kyle^q The revised International Association for the Study of Pain definition of pain, PAIN: May 23, 2020 - Volume Articles in Press - Issue - doi: 10.1097/j.pain.0000000000001939

Machery, Edouard, and Justin Sytsma. "Robot pains and corporate feelings." *The Philosophers' Magazine* 52 (2011): 78-82.

Aydede (2009) "Pain" in Stanford Encyclopedia of Philosophy pp. 2-12 (Up to "Sense Datum Theories")

Suggested Readings:

Wall (2000) "The Philosophy of Pain" in Pain: The Science of Suffering 1st Edition, pp 17-30

Aydede (2009) "Pain" in Stanford Encyclopedia of Philosophy pp. 12-58 (Starting at "Sense Datum Theories")

Price, Donald D. "Psychological and neural mechanisms of the affective dimension of pain." *Science* 288.5472 (2000): 1769-1772.

WEEK 4

Required Readings

Melzack and Wall (1996) "The Evolution of Pain Theories" in The Challenge of Pain 2nd Edition, pp. 149-157

Perl, Edward R. "Ideas about pain, a historical view." *Nature Reviews Neuroscience* 8.1 (2007): 71-80.

Grahek, N. (2007) "The biological function and importance of pain" in Feeling Pain and Being in Pain pp. 12-30

Basbaum "Specificity Versus Patterning Theory: Continuing the Debate"

Woolf "Transcending Specificity"

Casey "Ghosts of Pattern and Specificity"

Fields "untitled"

Apkarian "A theoretical view of ghosts"

In Pain Research Forum, available online at <http://www.painresearchforum.org/forums/discussion/7347-specificity-versus-patterning-theory-continuing-debate>

(or google "Pain Research Forum Specificity versus Patterning")

Suggested Readings:

Melzack, R. (1999). From the gate to the neuromatrix. *Pain*, 82, S121-S126.

Melzack R, Wall PD. Pain mechanisms: a new theory. *Science*. 1965 Nov 19;150(3699):971-9. Review. PubMed PMID: 5320816

Craig, A. D. (2003). A new view of pain as a homeostatic emotion. *Trends in Neurosciences*, 26(6), 303-307.

WEEK 5

Required Readings:

Iannetti, G. D., Salomons, T. V., Moayedi, M., Mouraux, A., & Davis, K. D. (2013). Beyond metaphor: contrasting mechanisms of social and physical pain. *Trends in cognitive sciences*, 17(8), 371-378.

Tracey, Irene Neuroimaging mechanisms in pain: from discovery to translation, PAIN: April 2017 - Volume 158 - Issue - p S115-S122 doi: 10.1097/j.pain.0000000000000863

Salomons TV, (2018) Pain as an embodied emotion. In Fox AS, Lapate RC, Shackman AJ & Davidson RJ (Eds). pp. 291-298 The nature of emotion. Fundamental questions (2nd ed.). New York: Oxford University Press.

Suggested Readings:

Derbyshire, S. W. (2016). Pain and the Dangers of Objectivity. In *Meanings of Pain* (pp. 23-36). Springer, Cham.

Wager, T. D., Atlas, L. Y., Lindquist, M. A., Roy, M., Woo, C. W., & Kross, E. (2013). An fMRI-based neurologic signature of physical pain. *New England Journal of Medicine*, 368(15), 1388-1397.

Tracey, I., & Mantyh, P. W. (2007). The cerebral signature for pain perception and its modulation. *Neuron*, 55(3), 377-391.

Feinstein, Justin S., et al. "Preserved emotional awareness of pain in a patient with extensive bilateral damage to the insula, anterior cingulate, and amygdala." *Brain Structure and Function* 221.3 (2016): 1499-1511.

Salomons, T. V., Iannetti, G. D., Liang, M., & Wood, J. N. (2016). The "pain matrix" in pain-free individuals. *JAMA neurology*, 73(6), 755-756.

WEEK 6

Required Reading:

Braithwaite, V. A., & Boulcott, P. (2007). Pain perception, aversion and fear in fish. *Diseases of aquatic organisms*, 75(2), 131-138.

Key, B. (2015). Fish do not feel pain and its implications for understanding phenomenal consciousness. *Biology & philosophy*, 30(2), 149-165.

WEEK 7

Required Readings:

Fillingham, R. B., Loeser, J. D., Baron, R., & Edwards, R. R. (2016). Assessment of chronic pain: domains, methods, and mechanisms. *The Journal of Pain*, 17(9), T10-T20.

[http://www.jpain.org/article/S1526-5900\(15\)00865-2/fulltext](http://www.jpain.org/article/S1526-5900(15)00865-2/fulltext)

Coghill, RC (2005) Pain: Making the private experience public in Aydede, M. (2005). Pain: new essays on its nature and the methodology of its study. Pp 299-305

<https://www.bbc.com/future/article/20170110-why-pain-is-so-hard-to-measure---and-treat>

Tait, R. C., Chibnall, J. T., & Kalauokalani, D. (2009). Provider judgments of patients in pain: seeking symptom certainty. *Pain Medicine*, 10(1), 11-34.

Suggested Readings:

Aydede (2009) "Pain" in Stanford Encyclopedia of Philosophy pp. 2-12 (Seminar 3)

Cowen, R., Stasiowska, M. K., Laycock, H., & Bantel, C. (2015). Assessing pain objectively: the use of physiological markers. *Anaesthesia*, 70(7), 828-847.

Prkachin KM, Solomon PE, Ross J. Underestimation of pain by health-care providers: towards a model of the process of inferring pain in others. *Can J Nurs Res*. 2007 Jun;39(2):88-106. Review. PubMed PMID: 17679587.

Turk and Melzack (2011) The Measurement of Pain and the Assessment of People Experiencing Pain in Turk, D. C., & Melzack, R. (Eds.). (2011). *Handbook of pain assessment*. Guilford Press. Pp 3-16.

Broderick JE, Stone AA, Calvanese P, Schwartz JE, Turk DC. Recalled pain ratings: a complex and poorly defined task. *J Pain*. 2006 Feb;7(2):142-9. PubMed PMID: 16459280.

Bačkonja MM, Farrar JT. Are Pain Ratings Irrelevant? *Pain Med*. 2015 Jul;16(7):1247-50. doi: 10.1111/pme.12748. PubMed PMID: 26176790.

WEEK 9

Required Reading:

"Living With Pain", Claire Sudduth, Time Magazine, March 11, 2011. http://content.time.com/time/specials/packages/article/0,28804,2053382_2055269_2055261-1,00.html

https://en.wikipedia.org/wiki/Chronic_pain

Turk, D. C., Wilson, H. D., & Cahana, A. (2011). Treatment of chronic non-cancer pain. *The Lancet*, 377(9784), 2226-2235.

Wall (2000) "How Treatments Work" in Pain: The Science of Suffering 1st Edition, pp 107-124

WEEK 10**Required Reading:**

Furlan, A. D., Sandoval, J. A., Mailis-Gagnon, A., & Tunks, E. (2006). Opioids for chronic noncancer pain: a meta-analysis of effectiveness and side effects. *Canadian Medical Association Journal*, 174(11), 1589-1594.

<https://harpers.org/archive/2018/04/the-pain-refugees/>

<https://www.nytimes.com/interactive/2017/08/03/upshot/opioid-drug-overdose-epidemic.html>

Suggested Reading:

<https://www.newyorker.com/magazine/2017/10/30/the-family-that-built-an-empire-of-pain>

https://www.huffingtonpost.ca/beth-darnall/opioids-limit_b_10374856.html

<https://www.theatlantic.com/health/archive/2018/06/opioid-epidemic/563576/>

WEEK 11**Required Reading:**

Engel, G. L. (1959). "Psychogenic" pain and the pain-prone patient. *The American Journal of Medicine*, 26(6), 899-918.

Melzack and Wall (1996) "The Psychology of Pain" in The Challenge of Pain 2nd Edition, pp. 15-33

Denk, F., McMahon, S. B., & Tracey, I. (2014). Pain vulnerability: a neurobiological perspective. *Nature neuroscience*, 17(2), 192-200.

Suggested Reading:

Baliki, M. N., Petre, B., Torbey, S., Herrmann, K. M., Huang, L., Schnitzer, T.J., ... & Apkarian, A. V. (2012). Corticostriatal functional connectivity predicts transition to chronic back pain. *Nature Neuroscience*, 15(8), 1117-1119.

WEEK 12**Required Reading:**

Large, R. G. (1996). Psychological aspects of pain. *Annals of the Rheumatic Diseases*, 55(6), 340-345.

Lumley, M. A., Cohen, J. L., Borszcz, G. S., Cano, A., Radcliffe, A. M., Porter, L. S., Schubiner, H., & Keefe, F. J. (2011). Pain and emotion: a biopsychosocial review of recent research. *Journal of clinical psychology*, 67(9), 942-968. <https://doi.org/10.1002/jclp.20816>

Statement on Academic Integrity

Queen's students, faculty, administrators and staff all have responsibilities for upholding the fundamental values of academic integrity; honesty, trust, fairness, respect, responsibility and courage (see www.academicintegrity.org). These values are central to the building, nurturing and sustaining of an academic community in which all members of the community will thrive. Adherence to the values expressed through academic integrity forms a foundation for the "freedom of inquiry and exchange of ideas" essential to the intellectual life of the University (see the Senate Report on Principles and Priorities <http://www.queensu.ca/secretariat/policies/senate/report-principles-and-priorities>).

Students are responsible for familiarizing themselves with the regulations concerning academic integrity and for ensuring that their assignments and their behaviour conform to the principles of academic integrity. Information on academic integrity is available in the Arts and Science Calendar (see Academic Regulation 1 <http://www.queensu.ca/artsci/academic-calendars/regulations/academic-regulations/regulation-1>), on the Arts and Science website (see <https://www.queensu.ca/artsci/students-at-queens/academic-integrity>), and from the instructor of this course. Departures from academic integrity include plagiarism, use of unauthorized materials, facilitation, forgery and falsification, and are antithetical to the development of an academic community at Queen's. Given the seriousness of these matters, actions which contravene the regulation on academic integrity carry sanctions that can range from a warning or the loss of grades on an assignment to the failure of a course to a requirement to withdraw from the university.

- *Please note that we have had issues in the past with unintended plagiarism in this course. Regardless of how and where you retrieve information, the principles of academic integrity apply. Please visit these helpful websites to help you make sure that you are able to write things in your own words:*
 - <https://www.queensu.ca/academicintegrity/students/avoiding-plagiarismcheating>
 - <https://integrity.mit.edu/handbook/academic-writing/avoiding-plagiarism-paraphrasing>
 - http://writing.wisc.edu/Handbook/QPA_paraphrase.html

It is expected that quizzes and reaction papers will be done independently.

Technology

Students should be encouraged when possible to work with the most recent versions of software including web browsers, Java, Flash and Adobe Reader.

Web Browsers

onQ performs best when using the most recent version of the web browsers, Chrome or Firefox. Safari and Edge are strongly discouraged as these web browsers are known to cause issues with onQ.

Internet Speed

While wired internet connection is encouraged, we recognize that students may be relying on a wireless connection. A minimum download speed of 10 Mbps and up to 20 Mbps for multimedia is recommended. To test your internet speed, <https://www.speedtest.net/>

For technology support ranging from setting up your device, issues with onQ to installing software, contact ITS Support Centre <https://www.queensu.ca/its/itsc>

Copyright of Course Materials

Course materials created by the course instructor, including all slides, presentations, handouts, tests, exams, and other similar course materials, are the intellectual property of the instructor. It is a departure from academic integrity to distribute, publicly post, sell or otherwise disseminate an instructor's course materials or to provide an instructor's course materials to anyone else for distribution, posting, sale or other means of dissemination, without the instructor's *express consent*. A student who engages in such conduct may be subject to penalty for a departure from academic integrity and may also face adverse legal consequences for infringement of intellectual property rights.

Acknowledgement of Territory

Queen's University is situated on the territory of the Haudenosaunee and Anishinaabek. We are grateful to be able to live, learn and play on these lands.

Accommodations for Disabilities

Queen's University is committed to achieving full accessibility for people with disabilities. Part of this commitment includes arranging academic accommodations for students with disabilities to ensure they have an equitable opportunity to participate in all of their academic activities. The Senate Policy for Accommodations for Students with Disabilities was approved at Senate in November 2016 (see <https://www.queensu.ca/secretariat/sites/webpublish.queensu.ca.uslclwww/files/files/policies/senate-andtrustees/ACADACCOMMPOLICY2016.pdf>). If you are a student with a disability and think you may need academic accommodations, you are strongly encouraged to contact the Queen's Student Accessibility Services (QSAS) and register as early as possible. For more information, including important deadlines, please visit the QSAS website at: <http://www.queensu.ca/studentwellness/accessibility-services/>

Academic Consideration for Students with Extenuating Circumstances

Queen's University is committed to providing academic consideration to students experiencing extenuating circumstances that are beyond their control and are interfering with their ability to complete academic requirements related to a course for a short period of time. The Senate Policy on Academic Consideration for Students in Extenuating Circumstances is available at <http://www.queensu.ca/secretariat/sites/webpublish.queensu.ca.uslclwww/files/files/policies/senateandtrustees/Academic%20Considerations%20for%20Extenuating%20Circumstances%20Policy%20Final.pdf>

Each Faculty has developed a protocol to provide a consistent and equitable approach in dealing with requests for academic consideration for students facing extenuating circumstances. Arts and Science undergraduate students can find the Faculty of Arts and Science protocol and the portal where a request can be submitted at: <http://www.queensu.ca/artsci/accommodations>. Students in other Faculties and Schools who are enrolled in this course should refer to the protocol for their home Faculty.

If you need to request academic consideration for this course, you will be required to provide the name and email address of the instructor/coordinator. Please use the following:

Tim Salomons
tim.salomons@queensu.ca

