

Pain: Body and Mind

Psyc 429

Winter, 2022

Humphrey Hall 223

Instructor: Dr. Tim Salomons
Humphrey Hall, 354
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Office Hours: 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

A substantial part of the course will be carried out online via OnQ and Feedback Fruits, but we will also hold a synchronous discussion session (not a lecture) on Fridays from 9:30-11:00. These will be held in person in Humphrey Hall 223, but will be moved to Zoom if necessary.

Course Outline

| | | |
|--------|---------------|--|
| WEEK 1 | (10/01-13/01) | Introduction and Opening Discussion |
| WEEK 2 | (14/01-20/01) | What is Pain? Why is it “sensory” What is pain? Why is it “emotional” |
| WEEK 3 | (21/01-27/01) | New definition of pain Pain: Body and Mind |
| WEEK 4 | (28/01-03/02) | Pain Physiology (periphery to spinal cord) Specificity vs. pattern theories |
| WEEK 5 | (04/02-10/02) | Pain Physiology (Brain) |
| WEEK 6 | (11/02-17/02) | How Does the Brain Do Subjectivity? |
| WEEK 7 | (18/02-24/02) | READING WEEK: NO ASSIGNMENTS |
| WEEK 8 | (25/02-03/03) | Do Fetuses Feel Pain? |

| | | |
|---------|---------------|--|
| WEEK 9 | (04/03-10/03) | Chronic pain: Disorders and treatments |
| WEEK 10 | (11/03-17/03) | Are opioids worth the risk? |
| WEEK 11 | (18/03-24/03) | Pain Psychology |
| WEEK 12 | (25/03-31/03) | Pain Psychology |

GRADING

GRADING

| | | |
|---------------------------------|-----|--|
| Quizzes | 20% | End of day Monday |
| Reaction Paper | 10% | 4pm Friday (see Presentation Schedule for your week) |
| Group presentation & Discussion | 10% | Friday discussion session |
| Final paper | 45% | April 7th |
| Participation | 15% | All semester! |

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: | 15/01 09:00am | 16/01 11:59pm |
| WEEK 3 Readings: | 22/01 09:00am | 23/01 11:59pm |
| WEEK 4 Readings: | 29/01 09:00am | 30/01 11:59pm |
| WEEK 5 Readings: | 05/02 09:00am | 06/02 11:59pm |
| WEEK 6 Readings: | 12/02 09:00am | 13/02 11:59pm |
| WEEK 8 Readings: | 26/02 09:00am | 27/02 11:59pm |
| WEEK 9 Readings: | 05/03 09:00am | 06/03 11:59pm |
| WEEK 10 Readings: | 12/03 09:00am | 13/03 11:59pm |
| WEEK 11 Readings: | 19/03 09:00am | 20/03 11:59pm |
| WEEK 12 Readings: | 26/03 09:00am | 27/03 11:59pm |

Group Presentation & Discussion

Every week a team of 2-4 (usually 3) students will be assigned to help lead discussion in our weekly synchronous session. This will include each individual writing a short reaction paper on one of the weekly readings and leading online discussion of their own reaction paper (see below). Additionally, each individual in the group will put together a short (~5 minute) presentation to kickstart discussion. This presentation should (very briefly!!) summarize the paper and attempt to integrate key points from the lecture, and online discussion (e.g. might highlight some particular comments in response to the lecture or reaction papers, or key themes in comments). You will then be part of a panel discussion led by the instructor, where you will participate as a panelist. You will also provide discussion questions (see below) to help facilitate discussion. Your presentation and participation in panel discussion will be graded.

Reaction Papers

For the week where your team is leading discussion, you will be (randomly) assigned to write a reaction paper (max 300 words) on one of the readings in which you will comment on how the reading informs a key theme outlined in that week's video lecture (or a key course theme). Presume others have read the reading, so don't waste words providing a lengthy summary. It is expected that your paper will be rooted in the scientific literature and that assertions will be appropriately supported.

You will email this to the instructor, along with two discussion questions intended to foster discussion around your reaction paper. The instructor will post the paper and discussion questions on Feedback Fruits

in OnQ for other students to comment on. 20% of your mark on the paper will be for discussion (including the quality of the discussion questions you include), 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.

By noon on the Thursday prior to class you should submit an extra set of discussion questions (minimum 3) based on the Feedback Fruits discussion around your paper (or other key themes that have arisen around the topic). The instructor will use these to lead a panel discussion (along with you) during Friday's class.

A strong reaction paper will:

- Make compelling, coherent arguments
- Be engaging and well written
- Provide empirical support
- Link to course themes and readings
- React to rather than merely summarize the focus paper

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, and joining in discussion during synchronous sessions. 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 of one of the topics discussed in the course. It should be essay style, with proper sentence and paragraph structure. References should be APA style. Aim

for around 1000 words. Do not exceed 1500 words. There will be 2% penalty for every 50 words you go over (so 1501 words gets -2%, 1551 gets -4% etc.).

Topics

Your paper should relate to course themes (so obviously it should be about pain!), but beyond that you have a great deal of flexibility. In general terms, you should choose a topic other than what you wrote your Reaction Paper on, but if you have an idea for how you could expand on the topic without repeating what you wrote in your reaction paper, outline this in an email and I will consider it (but you'll need to make a clear case for how this isn't simply a repetition and expansion of your reaction paper). Here are a few other ideas for developing a topic (no obligation to use any of these ideas, they're just suggestions to get the gears going):

- consider combining different themes in the course
- if there was a particular discussion in the weekly assignments you enjoyed, consider developing it in a more formal, empirically supported way. You could incorporate suggested readings from that week, or relevant readings from another week.
- you could take a controversial question/topic from the course and write a more balanced reaction paper (state arguments for and arguments against a position, then synthesize and give your thoughts on which side is more compelling)
- respond to the position outlined in one of the course readings, bringing other evidence to bear on the topic

If you have a topic in mind but aren't sure it is suitable, feel free to drop me an email

Empirical Support

There is a lot of flexibility about what topic you choose and how you choose to approach it **BUT your paper must be based in science**. You are expected to provide empirical support (with references) for your major claims. An argument that isn't based on credible scientific literature will not be viewed as convincing and a paper with little empirical support will not do well. While you may choose to focus on a particular paper, you are expected to have a broad base of references (so citing only your focus paper or references contained in your focus paper will be viewed as insufficient empirical support).

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; Keeffe, 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, I. (2021). Neuroimaging enters the pain biomarker arena. *Science Translational Medicine*, 13(619), eabj7358.

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:

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.

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 Readings:

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

Key, B., & Brown, D. (2018). Designing brains for pain: human to mollusc. *Frontiers in physiology*, 9, 1027.

Suggested Readings:

Key, B., Zalucki, O., & Brown, D. J. (2022). A First Principles Approach to Subjective Experience. *Frontiers in Systems Neuroscience*, 16.

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.

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

WEEK 8

Required Reading:

Derbyshire, S. W., & Bockmann, J. C. (2020). Reconsidering fetal pain. *Journal of Medical Ethics*, 46(1), 3-6.

Salomons, T. V., & Iannetti, G. D. (2022). Fetal pain and its relevance to abortion policy. *Nature Neuroscience*, 25(11), 1396-1398.

Condic et al (2021) Amicus Brief to US Supreme Court in Dobbs vs Jackson Women’s Health Organization

MacAvoy et al (2021) Amicus Brief to US Supreme Court in Dobbs vs Jackson Women’s Health Organization

Suggested Readings:

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 9

Required Reading:

“Living With Pain”, Claire Suddath, 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

<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.

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

Suggested Readings:

Fillingim, 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.

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.

WEEK 10

Required Reading:

Meske, D. S., Lawal, O. D., Elder, H., Langberg, V., Paillard, F., & Katz, N. (2018). Efficacy of opioids versus placebo in chronic pain: a systematic review and meta-analysis of enriched enrollment randomized withdrawal trials. *Journal of pain research*, 11, 923.

Belzak, & Halverson (2018). Evidence synthesis-The opioid crisis in Canada: a national perspective. *Health promotion and chronic disease prevention in Canada: research, policy and practice*, 38(6), 224.

Goldstone “The Pain Refugees” <https://harpers.org/archive/2018/04/the-pain-refugees/>

Suggested Reading:

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

https://www.huffpost.com/archive/ca/entry/limiting-opioids-alone-is-not-a-sustainable-pain-care-plan_b_10374856

<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

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

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.

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

WEEK 12

Required Reading:

TBA

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>

Ashar, Y. K., Gordon, A., Schubiner, H., Uipi, C., Knight, K., Anderson, Z., ... & Wager, T. D. (2022). Effect of pain reprocessing therapy vs placebo and usual care for patients with chronic back pain: A randomized clinical trial. *JAMA psychiatry*, 79(1), 13-23.

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/senateandtrustees/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.uslcwww/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