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**

<table>
<thead>
<tr>
<th>Component</th>
<th>Percentage</th>
<th>Due Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>Quizzes</td>
<td>15%</td>
<td>End of Day Monday</td>
</tr>
<tr>
<td>Reaction Paper</td>
<td>25%</td>
<td>See presentation schedule</td>
</tr>
<tr>
<td>Final paper</td>
<td>45%</td>
<td>December 7th</td>
</tr>
<tr>
<td>Participation</td>
<td>15%</td>
<td></td>
</tr>
</tbody>
</table>

**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:

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

**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**

<table>
<thead>
<tr>
<th>Week</th>
<th>Opens</th>
<th>Closes</th>
</tr>
</thead>
<tbody>
<tr>
<td>WEEK 2</td>
<td>13/09 09:00am</td>
<td>14/09 11:59pm</td>
</tr>
<tr>
<td>WEEK 3</td>
<td>20/09 09:00am</td>
<td>21/09 11:59pm</td>
</tr>
<tr>
<td>WEEK 4</td>
<td>27/09 09:00am</td>
<td>28/09 11:59pm</td>
</tr>
<tr>
<td>WEEK 5</td>
<td>04/10 09:00am</td>
<td>05/10 11:59pm</td>
</tr>
<tr>
<td>WEEK 6</td>
<td>11/10 09:00am</td>
<td>12/10 11:59pm</td>
</tr>
<tr>
<td>WEEK 7</td>
<td>18/10 09:00am</td>
<td>19/10 11:59pm</td>
</tr>
<tr>
<td>WEEK 9</td>
<td>01/11 09:00am</td>
<td>02/11 11:59pm</td>
</tr>
<tr>
<td>WEEK 10</td>
<td>08/11 09:00am</td>
<td>09/11 11:59pm</td>
</tr>
<tr>
<td>WEEK 11</td>
<td>15/11 09:00am</td>
<td>16/11 11:59pm</td>
</tr>
<tr>
<td>WEEK 12</td>
<td>22/11 09:00am</td>
<td>23/11 11:59pm</td>
</tr>
</tbody>
</table>

**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 though-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

How to create and comment on interactive documents
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


Suggested Readings

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


WEEK 3
Required Readings

Raja, Srinivasa N.; Carr, Daniel B.; Cohen, Milton; Finnerup, Nanna B.; Flor, Herta; Gibson, Stephen; Keele, Francis J.; Mogil, Jeffrey S.; Ringkamp, Matthias; Sluka, Kathleen A.; Song, Xue-Jun; Stevens, Bonnie; Sullivan, Mark D.; Tutelman, Perri R.; Ushida, Takahiro; Vader, Kyle 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


Suggested Readings:


**WEEK 4**

**Required Readings**


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”


**Suggested Readings:**


**WEEK 5**

**Required Readings:**


**Suggested Readings:**


**WEEK 6**  
**Required Reading:**  


**WEEK 7**  
**Required Readings:**  
http://www.jpain.org/article/S1526-5900(15)00865-2/fulltext


**Suggested Readings:**  


**WEEK 9**
Required Reading:

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


WEEK 10
Required Reading:

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.huffingtonpost.ca/beth-darnall/opioids-limit_b_10374856.html


WEEK 11
Required Reading:


Suggested Reading:

WEEK 12
Required Reading:

**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](http://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/sec-retariat/policies/senate/report-principles-and-priorities](http://www.queensu.ca/sec-retariat/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](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://www.queensu.ca/academicintegrity/students/avoiding-plagiarismcheating)
  - [https://integrity.mit.edu/handbook/academic-writing/avoiding-plagiarism-paraphrasing](https://integrity.mit.edu/handbook/academic-writing/avoiding-plagiarism-paraphrasing)

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/](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](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.uslcwww/files/files/policies/senateandtrustees/ACADACCOMMPOLICY2016.pdf](https://www.queensu.ca/secretariat/sites/webpublish.queensu.ca.uslcwww/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/](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](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](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