

@[Dror Bar-Natan](http://www.math.toronto.edu/~drorbn/) @[Classes](http://www.math.toronto.edu/~drorbn/classes/) @[2020-21](http://www.math.toronto.edu/~drorbn/classes/#2020-21)

**Disclaimers** . This will be a lousy year! We will all work more than in an ordinary year, but achieve less. Expect mishaps! Everything on the MAT 257 web pages remains tentative until it had happened. The Evil Virus situation may force us to make last minute changes to anything.

**Agenda.** Adult-Level Calculus; especially

$$\int_M d\omega = \int_{\partial M} \omega$$

**Instructor.** [Dror Bar-Natan](http://www.math.toronto.edu/~drorbn/)

(<http://www.math.toronto.edu/~drorbn/>),  
[drorbn@math.toronto.edu](mailto:drorbn@math.toronto.edu)

(<mailto:drorbn@math.toronto.edu>) (for course administration matters only; math on email is slow and prone to misunderstandings, so I generally avoid it). Office: Bahen 6178 (these days, mostly vacant).

**Teaching Assistants.** Petr Kosenko

([petr.kosenko@mail.utoronto.ca](mailto:petr.kosenko@mail.utoronto.ca)

(<mailto:petr.kosenko@mail.utoronto.ca>) and

[Petr's Zoom](https://utoronto.zoom.us/j/95837717811) (<https://utoronto.zoom.us/j/95837717811>),

Sebastian Gherghe ([sebastian.gherghe@mail.utoronto.ca](mailto:sebastian.gherghe@mail.utoronto.ca)

(<mailto:sebastian.gherghe@mail.utoronto.ca>) and [Sebastian's Zoom](https://us02web.zoom.us/j/88310099689?pwd=S1dTNmJDZkRBNW5QWENWcWtyWm5QQT09) (<https://us02web.zoom.us/j/88310099689?pwd=S1dTNmJDZkRBNW5QWENWcWtyWm5QQT09>),

Panagiotis Angelinos

([peter.angelinos@mail.utoronto.ca](mailto:peter.angelinos@mail.utoronto.ca) (<mailto:peter.angelinos@mail.utoronto.ca>) and [Peter's Zoom](https://utoronto.zoom.us/j/92163708354)

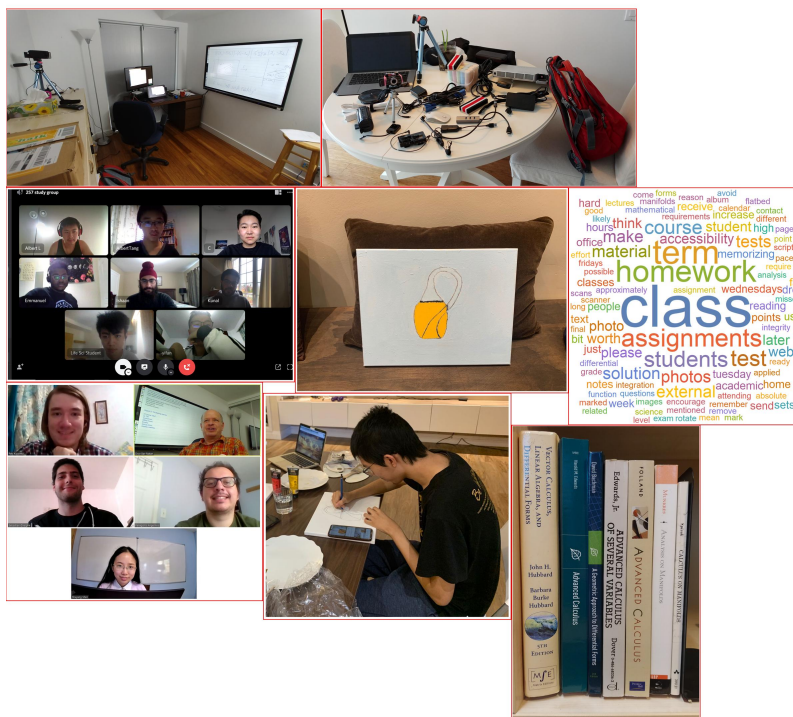
(<https://utoronto.zoom.us/j/92163708354>), and Shuyang Shen ([shuyang.shen@mail.utoronto.ca](mailto:shuyang.shen@mail.utoronto.ca)

(<mailto:shuyang.shen@mail.utoronto.ca>) and [Shuyang's Zoom](https://utoronto.zoom.us/j/83428997680) (<https://utoronto.zoom.us/j/83428997680>) (all zoom passwords are "vchat").

**Classes.** Mondays, Wednesdays and Fridays 9-10AM online at <http://drorbn.net/vclass> (<http://drorbn.net/vclass>)

**Office Hours.** With Dror: Tuesdays at 9-10AM and 12-1PM, online at <http://drorbn.net/vchat> (<http://drorbn.net/vchat>) (see [PDF notes](http://drorbn.net/AcademicPensieve/Classes/2021-257-AnalysisII/OfficeHoursNotes.pdf) (<http://drorbn.net/AcademicPensieve/Classes/2021-257-AnalysisII/OfficeHoursNotes.pdf>)), or by appointment (if timing cannot work out, or for issues that require privacy). Also with Sebastian on Mondays at 11AM-12noon on [Sebastian's Zoom](https://us02web.zoom.us/j/88310099689?pwd=S1dTNmJDZkRBNW5QWENWcWtyWm5QQT09) (<https://us02web.zoom.us/j/88310099689?pwd=S1dTNmJDZkRBNW5QWENWcWtyWm5QQT09>) (password vchat) and with Shuyang on Wednesdays 3-4PM on [Shuyang's Zoom](https://utoronto.zoom.us/j/83428997680) (<https://utoronto.zoom.us/j/83428997680>) (password vchat).

**Online Tutorials** (there will be no in-person tutorials). Wednesdays 5-6PM with Sebastian on [Sebastian's Zoom](https://us02web.zoom.us/j/88310099689?pwd=S1dTNmJDZkRBNW5QWENWcWtyWm5QQT09) (<https://us02web.zoom.us/j/88310099689?pwd=S1dTNmJDZkRBNW5QWENWcWtyWm5QQT09>), Thursdays 4-5PM with Shuyang on [Shuyang's Zoom](https://utoronto.zoom.us/j/83428997680) (<https://utoronto.zoom.us/j/83428997680>) (password vchat), and Fridays 12-1PM



















with Petr on [Petr's Zoom](https://utoronto.zoom.us/j/95837717811)  [\(https://utoronto.zoom.us/j/95837717811\)](https://utoronto.zoom.us/j/95837717811) (password vchat).

**Recordings.** For student privacy reasons, you are NOT allowed to record classes, tutorials, and/or office hours. "Official" class recordings showing only the instructors will be made available promptly.

**Text.** Our primary text will be "Little Spivak" - M. Spivak, *Calculus on Manifolds*. See more at [About This Class](https://q.utoronto.ca/courses/183900/pages/about-this-class) [\(https://q.utoronto.ca/courses/183900/pages/about-this-class\)](https://q.utoronto.ca/courses/183900/pages/about-this-class).






















## Course Calendar


















#	Week of ...	
0	August 31	Class Social on Monday at 9 at <a href="https://gather.town/vUrHft2R9fBjSraE/mat257">gather.town</a>  <a href="https://gather.town/vUrHft2R9fBjSraE/mat257">(https://gather.town/vUrHft2R9fBjSraE/mat257)</a> .
1	September 7	<p>UofT classes begin on Thursday September 10 and our first class is on Friday September 11. Tutorials will only start next week.</p> <p>Handout: <a href="https://q.utoronto.ca/courses/183900/pages/about-this-class">About This Class</a> <a href="https://q.utoronto.ca/courses/183900/pages/about-this-class">(https://q.utoronto.ca/courses/183900/pages/about-this-class)</a>.</p> <p>Friday's class - class introduction, review of inner products. Videos: <a href="https://play.library.utoronto.ca/play/f2fdf5e699ae26d0541b8acdf00692d">SD</a> , <a href="https://play.library.utoronto.ca/play/f2fdf5e699ae26d0541b8acdf00692d">(https://play.library.utoronto.ca/play/f2fdf5e699ae26d0541b8acdf00692d)</a>, <a href="https://play.library.utoronto.ca/play/98f9b560625e2bb8222a2254b223fc28">HD</a> , <a href="https://play.library.utoronto.ca/play/98f9b560625e2bb8222a2254b223fc28">(https://play.library.utoronto.ca/play/98f9b560625e2bb8222a2254b223fc28)</a>.</p>
2	September 14	<p>Monday's class - <a href="https://q.utoronto.ca/courses/183900/pages/about-this-class">About This Class</a> <a href="https://q.utoronto.ca/courses/183900/pages/about-this-class">(https://q.utoronto.ca/courses/183900/pages/about-this-class)</a>, more on inner products. Videos: <a href="https://play.library.utoronto.ca/470d5b608766b7572d1f87fc58a718e2">SD</a> , <a href="https://play.library.utoronto.ca/470d5b608766b7572d1f87fc58a718e2">(https://play.library.utoronto.ca/470d5b608766b7572d1f87fc58a718e2)</a>, <a href="https://play.library.utoronto.ca/470d5b608766b7572d1f87fc58a718e2">HD</a> , <a href="https://play.library.utoronto.ca/470d5b608766b7572d1f87fc58a718e2">(https://play.library.utoronto.ca/470d5b608766b7572d1f87fc58a718e2)</a>.</p> <p>Class Social on Monday at 4 at <a href="https://gather.town/vUrHft2R9fBjSraE/mat257">gather.town</a>  <a href="https://gather.town/vUrHft2R9fBjSraE/mat257">(https://gather.town/vUrHft2R9fBjSraE/mat257)</a>.</p> <p>Wednesday's class - linear transformations and matrices, open and closed sets. Videos: <a href="https://play.library.utoronto.ca/5b45d79eadbbf59c0f8bd6fc83026510">SD</a> , <a href="https://play.library.utoronto.ca/5b45d79eadbbf59c0f8bd6fc83026510">(https://play.library.utoronto.ca/5b45d79eadbbf59c0f8bd6fc83026510)</a>, <a href="https://play.library.utoronto.ca/8c3e94822440b812cdf95a9a93e72eb6">HD</a> , <a href="https://play.library.utoronto.ca/8c3e94822440b812cdf95a9a93e72eb6">(https://play.library.utoronto.ca/8c3e94822440b812cdf95a9a93e72eb6)</a>.</p> <p>HW1 is on Crowdmark, with a PDF copy <a href="http://drorbn.net/AcademicPensieve/Classes/2021-257-AnalysisII/HW01.pdf">here</a>  <a href="http://drorbn.net/AcademicPensieve/Classes/2021-257-AnalysisII/HW01.pdf">(http://drorbn.net/AcademicPensieve/Classes/2021-257-AnalysisII/HW01.pdf)</a>. It was due on Wednesday September 23 at 11:59PM. Solutions sets (<a href="https://q.utoronto.ca/courses/183900/pages/solution-sets-warning">warning</a> <a href="https://q.utoronto.ca/courses/183900/pages/solution-sets-warning">(https://q.utoronto.ca/courses/183900/pages/solution-sets-warning)</a>): <a href="http://drorbn.net/AcademicPensieve/Classes/2021-257-AnalysisII/SS/HW01_Sol_1.pdf">Sol1-1</a> , <a href="http://drorbn.net/AcademicPensieve/Classes/2021-257-AnalysisII/SS/HW01_Sol_1.pdf">(http://drorbn.net/AcademicPensieve/Classes/2021-257-AnalysisII/SS/HW01_Sol_1.pdf)</a>.</p> <p>Friday's class - More on open and closed, compactness. Videos: <a href="https://play.library.utoronto.ca/2c178dc6fb5f06f9daee39f694ce8871">SD</a> , <a href="https://play.library.utoronto.ca/2c178dc6fb5f06f9daee39f694ce8871">(https://play.library.utoronto.ca/2c178dc6fb5f06f9daee39f694ce8871)</a>, <a href="https://play.library.utoronto.ca/f10abcedea0a3d7fc19c17753e428727">HD</a> , <a href="https://play.library.utoronto.ca/f10abcedea0a3d7fc19c17753e428727">(https://play.library.utoronto.ca/f10abcedea0a3d7fc19c17753e428727)</a>.</p> <p>Friday's tutorial notes are <a href="http://drorbn.net/AcademicPensieve/Classes/2021-257-AnalysisII/Tutorial-Kosenko-200918.pdf">here</a>  <a href="http://drorbn.net/AcademicPensieve/Classes/2021-257-AnalysisII/Tutorial-Kosenko-200918.pdf">(http://drorbn.net/AcademicPensieve/Classes/2021-257-AnalysisII/Tutorial-Kosenko-200918.pdf)</a>.</p>
3	September 21	<p>Monday's class - Compactness in <math>\mathbb{R}^n</math>. Videos: <a href="https://play.library.utoronto.ca/aa5f55b8b9adac59cbe3384fec1eeec9">SD</a> , <a href="https://play.library.utoronto.ca/aa5f55b8b9adac59cbe3384fec1eeec9">(https://play.library.utoronto.ca/aa5f55b8b9adac59cbe3384fec1eeec9)</a>, <a href="https://play.library.utoronto.ca/804b92de6df4d644198a60f81e544629">HD</a> , <a href="https://play.library.utoronto.ca/804b92de6df4d644198a60f81e544629">(https://play.library.utoronto.ca/804b92de6df4d644198a60f81e544629)</a>.</p> <p>Wednesday's class - Functions and continuity. Videos: <a href="https://play.library.utoronto.ca">SD</a>  <a href="https://play.library.utoronto.ca">(https://play.library.utoronto.ca)</a></p>

#	Week of ...	
		<p><a href="https://play.library.utoronto.ca/c5b78e7930ac4ba823954ae7586d6dcf">/c5b78e7930ac4ba823954ae7586d6dcf</a>), <a href="https://play.library.utoronto.ca/29ba1d811d93196975286deb07f3a626">HD</a> <a href="https://play.library.utoronto.ca/29ba1d811d93196975286deb07f3a626">_</a>.</p> <p>HW2 is on Crowdmark, with a PDF copy <a href="http://drorbn.net/AcademicPensieve/Classes/2021-257-AnalysisII/HW02.pdf">here</a> <a href="http://drorbn.net/AcademicPensieve/Classes/2021-257-AnalysisII/HW02.pdf">_</a>. It was due on Wednesday September 30 at 11:59PM. Solutions sets (<a href="https://q.utoronto.ca/courses/183900/pages/solution-sets-warning">warning</a> (<a href="https://q.utoronto.ca/courses/183900/pages/solution-sets-warning">https://q.utoronto.ca/courses/183900/pages/solution-sets-warning</a>)): <a href="http://drorbn.net/AcademicPensieve/Classes/2021-257-AnalysisII/SS/HW02_Sol_1.pdf">Sol2-1</a> <a href="http://drorbn.net/AcademicPensieve/Classes/2021-257-AnalysisII/SS/HW02_Sol_1.pdf">_</a>. HW1 was due this Wednesday at 11:59PM.</p> <p>Friday's class - More on continuity and compactness, start of diffability. Videos: <a href="https://play.library.utoronto.ca/f6b2e5f7460b99626faf08ce1591aade">SD</a> <a href="https://play.library.utoronto.ca/f6b2e5f7460b99626faf08ce1591aade">_</a>, <a href="https://play.library.utoronto.ca/c48eec45298275ab64c044e109aa5c52">HD</a> <a href="https://play.library.utoronto.ca/c48eec45298275ab64c044e109aa5c52">_</a>.</p> <p>Friday's tutorial notes are <a href="http://drorbn.net/AcademicPensieve/Classes/2021-257-AnalysisII/Tutorial-Kosenko-200925.pdf">here</a> <a href="http://drorbn.net/AcademicPensieve/Classes/2021-257-AnalysisII/Tutorial-Kosenko-200925.pdf">_</a>.</p>
4	September 28	<p>Monday's class - The differential and the chain rule. Videos: <a href="https://play.library.utoronto.ca/34e80b5ad80fd6136be5a8105ac9c1b9">SD</a> <a href="https://play.library.utoronto.ca/34e80b5ad80fd6136be5a8105ac9c1b9">_</a>, <a href="https://play.library.utoronto.ca/7bf9820892a74b72d656a2d2f2d81c3f">HD</a> <a href="https://play.library.utoronto.ca/7bf9820892a74b72d656a2d2f2d81c3f">_</a>.</p> <p>Wednesday's class - Proof of the chain rule, some simple examples for the differential. Videos: <a href="https://play.library.utoronto.ca/0a368ea64c957766ed194141527a04c6">SD</a> <a href="https://play.library.utoronto.ca/0a368ea64c957766ed194141527a04c6">_</a>, <a href="https://play.library.utoronto.ca/dbabd646954e3ca439448b84283d5b6f">HD</a> <a href="https://play.library.utoronto.ca/dbabd646954e3ca439448b84283d5b6f">_</a>.</p> <p>HW3 is on Crowdmark, with a PDF copy <a href="http://drorbn.net/AcademicPensieve/Classes/2021-257-AnalysisII/HW03.pdf">here</a> <a href="http://drorbn.net/AcademicPensieve/Classes/2021-257-AnalysisII/HW03.pdf">_</a>. It was due on Wednesday October 7 at 11:59PM. Solutions sets (<a href="https://q.utoronto.ca/courses/183900/pages/solution-sets-warning">warning</a> (<a href="https://q.utoronto.ca/courses/183900/pages/solution-sets-warning">https://q.utoronto.ca/courses/183900/pages/solution-sets-warning</a>)): <a href="http://drorbn.net/AcademicPensieve/Classes/2021-257-AnalysisII/SS/HW03_Sol_1.pdf">Sol3-1</a> <a href="http://drorbn.net/AcademicPensieve/Classes/2021-257-AnalysisII/SS/HW03_Sol_1.pdf">_</a>. HW2 was due this Wednesday at 11:59PM.</p> <p>Friday's class - More examples for the differential. Videos: <a href="https://play.library.utoronto.ca/a18e853414033ee17f362b6c18c09820">SD</a> <a href="https://play.library.utoronto.ca/a18e853414033ee17f362b6c18c09820">_</a>, <a href="https://play.library.utoronto.ca/fe8cc6e1a4f9eba163c7c0b1236402d9">HD</a> <a href="https://play.library.utoronto.ca/fe8cc6e1a4f9eba163c7c0b1236402d9">_</a>.</p> <p>Friday's tutorial notes are <a href="http://drorbn.net/AcademicPensieve/Classes/2021-257-AnalysisII/Tutorial-Kosenko-201002.pdf">here</a> <a href="http://drorbn.net/AcademicPensieve/Classes/2021-257-AnalysisII/Tutorial-Kosenko-201002.pdf">_</a>.</p>
5	October 5	<p>Monday's class - The differential and partial derivatives. Videos: <a href="https://play.library.utoronto.ca/5ea886d220b9c75a768d1ea932972c03">SD</a> <a href="https://play.library.utoronto.ca/5ea886d220b9c75a768d1ea932972c03">_</a>, <a href="https://play.library.utoronto.ca/082e11d03afb56e41b5a455d55e1c6eb">HD</a> <a href="https://play.library.utoronto.ca/082e11d03afb56e41b5a455d55e1c6eb">_</a>.</p> <p>Wednesday's class - The differential and partial derivatives. Videos: <a href="https://play.library.utoronto.ca/a8ca7251edeb2a7e7f6b3141bd90f2f8">SD</a> <a href="https://play.library.utoronto.ca/a8ca7251edeb2a7e7f6b3141bd90f2f8">_</a>, <a href="https://play.library.utoronto.ca/b23690913ad84210c2142d9b8f13869a">HD</a> <a href="https://play.library.utoronto.ca/b23690913ad84210c2142d9b8f13869a">_</a>.</p> <p>HW4 is on Crowdmark, with a PDF copy <a href="http://drorbn.net/AcademicPensieve/Classes/2021-257-AnalysisII/HW04.pdf">here</a> <a href="http://drorbn.net/AcademicPensieve/Classes/2021-257-AnalysisII/HW04.pdf">_</a>. It was due the following Thursday at 11:59PM. HW3 is due this Wednesday at 11:59PM.</p> <p>Friday's class - Initial discussion of the Inverse Function Theorem. Videos: <a href="https://play.library.utoronto.ca/5ea886d220b9c75a768d1ea932972c03">SD</a> <a href="https://play.library.utoronto.ca/5ea886d220b9c75a768d1ea932972c03">_</a>.</p>



















#	Week of ...	
		<p>(<a href="https://play.library.utoronto.ca/a86f654dd705521869df938a871fdcc5">https://play.library.utoronto.ca/a86f654dd705521869df938a871fdcc5</a>), <a href="#">HD</a></p> <p>(<a href="https://play.library.utoronto.ca/20a9e6997eb0bfa823a428d8afef4147">https://play.library.utoronto.ca/20a9e6997eb0bfa823a428d8afef4147</a>).</p> <p>Friday's tutorial notes are <a href="#">here</a> (<a href="http://drorbn.net/AcademicPensieve/Classes/2021-257-AnalysisII/Tutorial-Kosenko-201009.pdf">http://drorbn.net/AcademicPensieve/Classes/2021-257-AnalysisII/Tutorial-Kosenko-201009.pdf</a>).</p>
6	October 12	<p>Monday is Thanksgiving; no class.</p> <p>HW5 is on Crowdmark, with a PDF copy <a href="#">here</a> (<a href="http://drorbn.net/AcademicPensieve/Classes/2021-257-AnalysisII/HW05.pdf">http://drorbn.net/AcademicPensieve/Classes/2021-257-AnalysisII/HW05.pdf</a>). It was due the following Wednesday at 11:59PM. Solutions sets (<a href="https://q.utoronto.ca/courses/183900/pages/solution-sets-warning">warning</a> (<a href="https://q.utoronto.ca/courses/183900/pages/solution-sets-warning">https://q.utoronto.ca/courses/183900/pages/solution-sets-warning</a>)): <a href="#">Sol5-1</a> (<a href="http://drorbn.net/AcademicPensieve/Classes/2021-257-AnalysisII/SS/HW05_Sol_1.pdf">http://drorbn.net/AcademicPensieve/Classes/2021-257-AnalysisII/SS/HW05_Sol_1.pdf</a>).</p> <p>Wednesday's class - Towards the proof of the Inverse Function Theorem. Videos: <a href="#">SD</a> (<a href="https://play.library.utoronto.ca/ce663db9f94cc16cabe1344d1cd1ae21">https://play.library.utoronto.ca/ce663db9f94cc16cabe1344d1cd1ae21</a>), <a href="#">HD</a> (<a href="https://play.library.utoronto.ca/29ea6c868d2a7048c45344590d0779d2">https://play.library.utoronto.ca/29ea6c868d2a7048c45344590d0779d2</a>).</p> <p>Thursday - HW4 was due at 11:59PM.</p> <p>Friday's class - the main part of the proof of the Inverse Function Theorem. Videos: <a href="#">SD</a> (<a href="https://play.library.utoronto.ca/aac9158788b0a8e41f913cd7ca1765f6">https://play.library.utoronto.ca/aac9158788b0a8e41f913cd7ca1765f6</a>), <a href="#">HD</a> (<a href="https://play.library.utoronto.ca/ceb08888bd59500ac79d1a52b0f30efe">https://play.library.utoronto.ca/ceb08888bd59500ac79d1a52b0f30efe</a>).</p> <p>This week's in-class notes are <a href="#">here</a> (<a href="http://drorbn.net/AcademicPensieve/Classes/2021-257-AnalysisII/2021-257-Week_06_In-Class_Notes.pdf">http://drorbn.net/AcademicPensieve/Classes/2021-257-AnalysisII/2021-257-Week_06_In-Class_Notes.pdf</a>).</p> <p>Friday's tutorial notes are <a href="#">here</a> (<a href="http://drorbn.net/AcademicPensieve/Classes/2021-257-AnalysisII/Tutorial-Kosenko-201016.pdf">http://drorbn.net/AcademicPensieve/Classes/2021-257-AnalysisII/Tutorial-Kosenko-201016.pdf</a>).</p>
7	October 19	<p>Monday's class - end of the proof of the Inverse Function Theorem. Videos: <a href="#">SD</a> (<a href="https://play.library.utoronto.ca/b50b89f60dd0ce215ede48799d543946">https://play.library.utoronto.ca/b50b89f60dd0ce215ede48799d543946</a>), <a href="#">HD</a> (<a href="https://play.library.utoronto.ca/b46ec656a91b07ffcbf1db13e165b1f">https://play.library.utoronto.ca/b46ec656a91b07ffcbf1db13e165b1f</a>).</p> <p>HW6 is on Crowdmark, with a PDF copy <a href="#">here</a> (<a href="http://drorbn.net/AcademicPensieve/Classes/2021-257-AnalysisII/HW06.pdf">http://drorbn.net/AcademicPensieve/Classes/2021-257-AnalysisII/HW06.pdf</a>). It was due the following Wednesday at 11:59PM. Solutions sets (<a href="https://q.utoronto.ca/courses/183900/pages/solution-sets-warning">warning</a> (<a href="https://q.utoronto.ca/courses/183900/pages/solution-sets-warning">https://q.utoronto.ca/courses/183900/pages/solution-sets-warning</a>)): <a href="#">Sol6-1</a> (<a href="http://drorbn.net/AcademicPensieve/Classes/2021-257-AnalysisII/SS/HW06_Sol_1.pdf">http://drorbn.net/AcademicPensieve/Classes/2021-257-AnalysisII/SS/HW06_Sol_1.pdf</a>).</p> <p>Wednesday's class - The Implicit Function Theorem. Videos: <a href="#">SD</a> (<a href="https://play.library.utoronto.ca/6fdbaa88b7721d5448dd1fb5c4d0e651">https://play.library.utoronto.ca/6fdbaa88b7721d5448dd1fb5c4d0e651</a>), <a href="#">HD</a> (<a href="https://play.library.utoronto.ca/df2b638f76c7b6ff3f5627a4af41c823">https://play.library.utoronto.ca/df2b638f76c7b6ff3f5627a4af41c823</a>).</p> <p>Wednesday - HW5 was due at 11:59PM.</p> <p>Friday's class - The Implicit Function Theorem, integration. Videos: <a href="#">SD</a> (<a href="https://play.library.utoronto.ca/4a6d7b57cff937db6df06aecbe0d084">https://play.library.utoronto.ca/4a6d7b57cff937db6df06aecbe0d084</a>), <a href="#">HD</a> (<a href="https://play.library.utoronto.ca/120c5024361def927ddec155908baa5a">https://play.library.utoronto.ca/120c5024361def927ddec155908baa5a</a>).</p> <p>This week's in-class notes are <a href="#">here</a> (<a href="http://drorbn.net/AcademicPensieve/Classes/2021-257-AnalysisII/2021-257-Week_07_In-Class_Notes.pdf">http://drorbn.net/AcademicPensieve/Classes/2021-257-AnalysisII/2021-257-Week_07_In-Class_Notes.pdf</a>).</p>



#	Week of ...	
		Friday's tutorial notes are <a href="http://drorbn.net/AcademicPensieve/Classes/2021-257-AnalysisII/Tutorial-Kosenko-201023.pdf">here</a>  <a href="http://drorbn.net/AcademicPensieve/Classes/2021-257-AnalysisII/Tutorial-Kosenko-201023.pdf">_(http://drorbn.net/AcademicPensieve/Classes/2021-257-AnalysisII/Tutorial-Kosenko-201023.pdf)_</a> .
8	October 26	<p>Monday's class - Partitions, refining partitions, integration. Videos: <a href="https://play.library.utoronto.ca/87ff2c3d15c747657e7ca2957c391858">SD</a>  <a href="https://play.library.utoronto.ca/87ff2c3d15c747657e7ca2957c391858">_(https://play.library.utoronto.ca/87ff2c3d15c747657e7ca2957c391858)_</a>, <a href="https://play.library.utoronto.ca/909f515a21570e208f1b53fc97880059">HD</a>  <a href="https://play.library.utoronto.ca/909f515a21570e208f1b53fc97880059">_(https://play.library.utoronto.ca/909f515a21570e208f1b53fc97880059)_</a>.</p> <p>Wednesday's class - Integration, measure 0. Videos: <a href="https://play.library.utoronto.ca/7fb1987a5d7602710e3157d9d5cf4ec3">SD</a>  <a href="https://play.library.utoronto.ca/7fb1987a5d7602710e3157d9d5cf4ec3">_(https://play.library.utoronto.ca/7fb1987a5d7602710e3157d9d5cf4ec3)_</a>, <a href="https://play.library.utoronto.ca/b87aadf0ad22cf5c602125b18792f5b4">HD</a>  <a href="https://play.library.utoronto.ca/b87aadf0ad22cf5c602125b18792f5b4">_(https://play.library.utoronto.ca/b87aadf0ad22cf5c602125b18792f5b4)_</a>.</p> <p>Wednesday: HW6 was due at 11:59PM.</p> <p>Friday's class - More on measure 0, integration. Videos: <a href="https://play.library.utoronto.ca/6fb9bbcace0fd8a2c56e233b2d6ddeb0">SD</a>  <a href="https://play.library.utoronto.ca/6fb9bbcace0fd8a2c56e233b2d6ddeb0">_(https://play.library.utoronto.ca/6fb9bbcace0fd8a2c56e233b2d6ddeb0)_</a>, <a href="https://play.library.utoronto.ca/b347d94c64bf02fb7cd0af024f154f31">HD</a>  <a href="https://play.library.utoronto.ca/b347d94c64bf02fb7cd0af024f154f31">_(https://play.library.utoronto.ca/b347d94c64bf02fb7cd0af024f154f31)_</a>.</p> <p>This week's in-class notes are <a href="http://drorbn.net/AcademicPensieve/Classes/2021-257-AnalysisII/2021-257-Week_08_In-Class_Notes.pdf">here</a>  <a href="http://drorbn.net/AcademicPensieve/Classes/2021-257-AnalysisII/2021-257-Week_08_In-Class_Notes.pdf">_(http://drorbn.net/AcademicPensieve/Classes/2021-257-AnalysisII/2021-257-Week_08_In-Class_Notes.pdf)_</a>.</p> <p>Friday's tutorial notes are <a href="http://drorbn.net/AcademicPensieve/Classes/2021-257-AnalysisII/Tutorial-Kosenko-201030.pdf">here</a>  <a href="http://drorbn.net/AcademicPensieve/Classes/2021-257-AnalysisII/Tutorial-Kosenko-201030.pdf">_(http://drorbn.net/AcademicPensieve/Classes/2021-257-AnalysisII/Tutorial-Kosenko-201030.pdf)_</a>.</p>
9	November 2	<p>Monday's class - Continuous functions are integrable. Videos: <a href="https://play.library.utoronto.ca/c21c56434a25b03ed5c61554e69141ee">SD</a>  <a href="https://play.library.utoronto.ca/c21c56434a25b03ed5c61554e69141ee">_(https://play.library.utoronto.ca/c21c56434a25b03ed5c61554e69141ee)_</a>, <a href="https://play.library.utoronto.ca/4c7e878171c08c610e3dbc37c8ef0eb4">HD</a>  <a href="https://play.library.utoronto.ca/4c7e878171c08c610e3dbc37c8ef0eb4">_(https://play.library.utoronto.ca/4c7e878171c08c610e3dbc37c8ef0eb4)_</a>.</p> <p>Tuesday: Petr's office hours notes are <a href="http://drorbn.net/AcademicPensieve/Classes/2021-257-AnalysisII/OfficeHours-Kosenko-201103.pdf">here</a>  <a href="http://drorbn.net/AcademicPensieve/Classes/2021-257-AnalysisII/OfficeHours-Kosenko-201103.pdf">_(http://drorbn.net/AcademicPensieve/Classes/2021-257-AnalysisII/OfficeHours-Kosenko-201103.pdf)_</a>.</p> <p>Term Test 1 on Tuesday at 5-7PM. See <a href="https://q.utoronto.ca/courses/183900/discussion_topics/894005">details here</a> <a href="https://q.utoronto.ca/courses/183900/discussion_topics/894005">_(https://q.utoronto.ca/courses/183900/discussion_topics/894005)_</a>. See <a href="http://drorbn.net/AcademicPensieve/Classes/2021-257-AnalysisII/2021-257-TT1.pdf">PDF</a>  <a href="http://drorbn.net/AcademicPensieve/Classes/2021-257-AnalysisII/2021-257-TT1.pdf">_(http://drorbn.net/AcademicPensieve/Classes/2021-257-AnalysisII/2021-257-TT1.pdf)_</a>.</p> <p>Wednesday's class - A bit about oscillation. Videos: <a href="https://play.library.utoronto.ca/bf761654c0b69932abf7924e47d0f27e">SD</a>  <a href="https://play.library.utoronto.ca/bf761654c0b69932abf7924e47d0f27e">_(https://play.library.utoronto.ca/bf761654c0b69932abf7924e47d0f27e)_</a>, <a href="https://play.library.utoronto.ca/5579fcb5a3ac3ef36c3103d2d78aa415">HD</a>  <a href="https://play.library.utoronto.ca/5579fcb5a3ac3ef36c3103d2d78aa415">_(https://play.library.utoronto.ca/5579fcb5a3ac3ef36c3103d2d78aa415)_</a>.</p> <p>HW7 is on Crowdmark, with a PDF copy <a href="http://drorbn.net/AcademicPensieve/Classes/2021-257-AnalysisII/HW07.pdf">here</a>  <a href="http://drorbn.net/AcademicPensieve/Classes/2021-257-AnalysisII/HW07.pdf">_(http://drorbn.net/AcademicPensieve/Classes/2021-257-AnalysisII/HW07.pdf)_</a>. It was due the following Wednesday, on November 18 at 11:59PM. Solutions sets (<a href="https://q.utoronto.ca/courses/183900/pages/solution-sets-warning">warning</a> <a href="https://q.utoronto.ca/courses/183900/pages/solution-sets-warning">_(https://q.utoronto.ca/courses/183900/pages/solution-sets-warning)_</a>): <a href="http://drorbn.net/AcademicPensieve/Classes/2021-257-AnalysisII/SS/HW07_Sol_1.pdf">Sol7-1</a>  <a href="http://drorbn.net/AcademicPensieve/Classes/2021-257-AnalysisII/SS/HW07_Sol_1.pdf">_(http://drorbn.net/AcademicPensieve/Classes/2021-257-AnalysisII/SS/HW07_Sol_1.pdf)_</a>, <a href="http://drorbn.net/AcademicPensieve/Classes/2021-257-AnalysisII/SS/HW07_Sol_2.pdf">Sol7-2</a>  <a href="http://drorbn.net/AcademicPensieve/Classes/2021-257-AnalysisII/SS/HW07_Sol_2.pdf">_(http://drorbn.net/AcademicPensieve/Classes/2021-257-AnalysisII/SS/HW07_Sol_2.pdf)_</a>.</p> <p>Friday's class - A function is integrable iff it's set of discontinuities is of measure 0. Videos: <a href="https://play.library.utoronto.ca/899a2265e78f7c3fdd0820a2b4274c4c">SD</a>  <a href="https://play.library.utoronto.ca/899a2265e78f7c3fdd0820a2b4274c4c">_(https://play.library.utoronto.ca/899a2265e78f7c3fdd0820a2b4274c4c)_</a>, <a href="https://play.library.utoronto.ca/e866f6118745b8629f9ef65c286e0cee">HD</a>  <a href="https://play.library.utoronto.ca/e866f6118745b8629f9ef65c286e0cee">_(https://play.library.utoronto.ca/e866f6118745b8629f9ef65c286e0cee)_</a>.</p> <p>This week's in-class notes are <a href="http://drorbn.net/AcademicPensieve/Classes/2021-257-">here</a>  <a href="http://drorbn.net/AcademicPensieve/Classes/2021-257-">_(http://drorbn.net/AcademicPensieve/Classes/2021-257-</a></p>

#	Week of ...	
		<p><a href="#">AnalysisII/2021-257-Week_09_In-Class_Notes.pdf</a>).</p> <p>Friday: No Petr office hour (but tutorial takes place as usual).</p>
R	November 9	Reading Week - no classes, no office hours.
10	November 16	<p>Monday's class - the content of a set, Fubini's theorem. Videos: <a href="#">SD</a>  (<a href="https://play.library.utoronto.ca/09dbaa0690b9560e408853219f3cf739">https://play.library.utoronto.ca/09dbaa0690b9560e408853219f3cf739</a>), <a href="#">HD</a>  (<a href="https://play.library.utoronto.ca/c463494ea595070bcfe8a3f9388db387">https://play.library.utoronto.ca/c463494ea595070bcfe8a3f9388db387</a>).</p> <p>Monday: no Peter office hour.</p> <p>HW8 is on Crowdmark, with a PDF copy <a href="#">here</a>  (<a href="http://drorbn.net/AcademicPensieve/Classes/2021-257-AnalysisII/HW08.pdf">http://drorbn.net/AcademicPensieve/Classes/2021-257-AnalysisII/HW08.pdf</a>). It is due next next Wednesday, on November 25 at 11:59PM. Solutions sets (<a href="#">warning</a>, (<a href="https://q.utoronto.ca/courses/183900/pages/solution-sets-warning">https://q.utoronto.ca/courses/183900/pages/solution-sets-warning</a>)): <a href="#">Sol8-1</a>  (<a href="http://drorbn.net/AcademicPensieve/Classes/2021-257-AnalysisII/SS/HW08_Sol_1.pdf">http://drorbn.net/AcademicPensieve/Classes/2021-257-AnalysisII/SS/HW08_Sol_1.pdf</a>).</p> <p>Wednesday's class - more on Fubini. Videos: <a href="#">SD</a>  (<a href="https://play.library.utoronto.ca/47748a35474a053d1cdf7fc17eed8f3">https://play.library.utoronto.ca/47748a35474a053d1cdf7fc17eed8f3</a>), <a href="#">HD</a>  (<a href="https://play.library.utoronto.ca/8a31b7d1b0f02da0c35e3b4f9cb63f1b">https://play.library.utoronto.ca/8a31b7d1b0f02da0c35e3b4f9cb63f1b</a>). "Bed of Nails" graphics is <a href="#">here</a>  (<a href="http://drorbn.net/AcademicPensieve/Classes/2021-257-AnalysisII/nb/BedOfNails.pdf">http://drorbn.net/AcademicPensieve/Classes/2021-257-AnalysisII/nb/BedOfNails.pdf</a>).</p> <p>Wednesday: HW7 was due at 11:59PM.</p> <p>Friday's class - Proof of Fubini, and what's a partition of unity? Videos: <a href="#">SD</a>  (<a href="https://play.library.utoronto.ca/1659d5ae908d7250ec2198e1bcde96ba">https://play.library.utoronto.ca/1659d5ae908d7250ec2198e1bcde96ba</a>), <a href="#">HD</a>  (<a href="https://play.library.utoronto.ca/6ba0e09ea69432669fd850eedd8e3520">https://play.library.utoronto.ca/6ba0e09ea69432669fd850eedd8e3520</a>).</p> <p>This week's in-class notes are <a href="#">here</a>  (<a href="http://drorbn.net/AcademicPensieve/Classes/2021-257-AnalysisII/2021-257-Week_10_In-Class_Notes.pdf">http://drorbn.net/AcademicPensieve/Classes/2021-257-AnalysisII/2021-257-Week_10_In-Class_Notes.pdf</a>).</p> <p>Friday: No Petr office hour (but tutorial takes place as usual).</p>
11	November 23	<p>Monday's class - DIY smooth function assembly. Videos: <a href="#">SD</a>  (<a href="https://play.library.utoronto.ca/16804bfb55c612595c607a4457e26644">https://play.library.utoronto.ca/16804bfb55c612595c607a4457e26644</a>), <a href="#">HD</a>  (<a href="https://play.library.utoronto.ca/e9e8e5f334754ac3fe2f1c5204cedb30">https://play.library.utoronto.ca/e9e8e5f334754ac3fe2f1c5204cedb30</a>).</p> <p>Monday: no Peter office hour.</p> <p>Tuesday: HW9 is on Crowdmark, with a PDF copy <a href="#">here</a>  (<a href="http://drorbn.net/AcademicPensieve/Classes/2021-257-AnalysisII/HW09.pdf">http://drorbn.net/AcademicPensieve/Classes/2021-257-AnalysisII/HW09.pdf</a>). It is due next next Friday, on December 4 at 11:59PM.</p> <p>Wednesday's class - PO1: more preliminaries and start of proof. Videos: <a href="#">SD</a>  (<a href="https://play.library.utoronto.ca/b537ca3f89b848cf3b004d1a9b4bd6e6">https://play.library.utoronto.ca/b537ca3f89b848cf3b004d1a9b4bd6e6</a>), <a href="#">HD</a>  (<a href="https://play.library.utoronto.ca/a4d56e1b924b4d7e5e1699afadd50f99">https://play.library.utoronto.ca/a4d56e1b924b4d7e5e1699afadd50f99</a>). "Smooth lego blocks" graphics are <a href="#">here</a>  (<a href="http://drorbn.net/AcademicPensieve/Classes/2021-257-AnalysisII/nb/SmoothLego.pdf">http://drorbn.net/AcademicPensieve/Classes/2021-257-AnalysisII/nb/SmoothLego.pdf</a>).</p> <p>Wednesday: HW8 was due at 11:59PM.</p> <p>Friday's class - PO1: proof. Videos: <a href="#">SD</a>  (<a href="https://play.library.utoronto.ca">https://play.library.utoronto.ca</a></p>




















#	Week of ...	
		<p><a href="https://play.library.utoronto.ca/bbb5555e48f98fff0ee0c05e7764aaab/">/bbb5555e48f98fff0ee0c05e7764aaab/</a>, <a href="https://play.library.utoronto.ca/e0e4a57265e57c429c898700a23ee894/">HD</a> <a href="https://play.library.utoronto.ca/e0e4a57265e57c429c898700a23ee894/">(https://play.library.utoronto.ca/e0e4a57265e57c429c898700a23ee894)</a> (sorry for the blue tint).</p> <p>This week's in-class notes are <a href="http://drorbn.net/AcademicPensieve/Classes/2021-257-AnalysisII/2021-257-Week_11_In-Class_Notes.pdf">here</a> <a href="http://drorbn.net/AcademicPensieve/Classes/2021-257-AnalysisII/2021-257-Week_11_In-Class_Notes.pdf">. (http://drorbn.net/AcademicPensieve/Classes/2021-257-AnalysisII/2021-257-Week_11_In-Class_Notes.pdf)</a>.</p> <p>Friday's tutorial notes are <a href="http://drorbn.net/AcademicPensieve/Classes/2021-257-AnalysisII/Tutorial-Kosenko-201127.pdf">here</a> <a href="http://drorbn.net/AcademicPensieve/Classes/2021-257-AnalysisII/Tutorial-Kosenko-201127.pdf">. (http://drorbn.net/AcademicPensieve/Classes/2021-257-AnalysisII/Tutorial-Kosenko-201127.pdf)</a>.</p>
12	November 30	<p>Monday's class - Integration (NT). Videos: <a href="https://play.library.utoronto.ca/5c6fd2fea27d57ee6f0c8a4f945cf808/">SD</a> <a href="https://play.library.utoronto.ca/5c6fd2fea27d57ee6f0c8a4f945cf808/">(https://play.library.utoronto.ca/5c6fd2fea27d57ee6f0c8a4f945cf808)</a>, <a href="https://play.library.utoronto.ca/90793e6e73ad41cef70241a75bd56dd5/">HD</a> <a href="https://play.library.utoronto.ca/90793e6e73ad41cef70241a75bd56dd5/">(https://play.library.utoronto.ca/90793e6e73ad41cef70241a75bd56dd5)</a>.</p> <p>Wednesday's class - Integration (NT) is well defined and agrees with integration (old), changes of variables. Videos: <a href="https://play.library.utoronto.ca/07f337d35f2665092844e4cf3bf7462a/">SD</a> <a href="https://play.library.utoronto.ca/07f337d35f2665092844e4cf3bf7462a/">(https://play.library.utoronto.ca/07f337d35f2665092844e4cf3bf7462a)</a>, <a href="https://play.library.utoronto.ca/ec2eda0d248d796cff9e95084e5c56a5/">HD</a> <a href="https://play.library.utoronto.ca/ec2eda0d248d796cff9e95084e5c56a5/">(https://play.library.utoronto.ca/ec2eda0d248d796cff9e95084e5c56a5)</a>.</p> <p>Wednesday: HW10 is on Crowdmark, with a PDF copy <a href="http://drorbn.net/AcademicPensieve/Classes/2021-257-AnalysisII/HW10.pdf">here</a> <a href="http://drorbn.net/AcademicPensieve/Classes/2021-257-AnalysisII/HW10.pdf">. (http://drorbn.net/AcademicPensieve/Classes/2021-257-AnalysisII/HW10.pdf)</a>. It was due the next next Wednesday, on December 9 at 11:59PM. Solutions sets (<a href="https://q.utoronto.ca/courses/183900/pages/solution-sets-warning">warning (https://q.utoronto.ca/courses/183900/pages/solution-sets-warning)</a>): <a href="http://drorbn.net/AcademicPensieve/Classes/2021-257-AnalysisII/SS/HW10_Sol_1.pdf">Sol10-1</a> <a href="http://drorbn.net/AcademicPensieve/Classes/2021-257-AnalysisII/SS/HW10_Sol_1.pdf">. (http://drorbn.net/AcademicPensieve/Classes/2021-257-AnalysisII/SS/HW10_Sol_1.pdf)</a>.</p> <p>Friday's class - Changes of variables and the Gaussian integral. Videos: <a href="https://play.library.utoronto.ca/abe93555d346ce6c4e2bfcc394e80a2f/">SD</a> <a href="https://play.library.utoronto.ca/abe93555d346ce6c4e2bfcc394e80a2f/">(https://play.library.utoronto.ca/abe93555d346ce6c4e2bfcc394e80a2f)</a>, <a href="https://play.library.utoronto.ca/492c14e8c58131a21d774eb019ef66d9/">HD</a> <a href="https://play.library.utoronto.ca/492c14e8c58131a21d774eb019ef66d9/">(https://play.library.utoronto.ca/492c14e8c58131a21d774eb019ef66d9)</a>.</p> <p>This week's in-class notes are <a href="http://drorbn.net/AcademicPensieve/Classes/2021-257-AnalysisII/2021-257-Week_12_In-Class_Notes.pdf">here</a> <a href="http://drorbn.net/AcademicPensieve/Classes/2021-257-AnalysisII/2021-257-Week_12_In-Class_Notes.pdf">. (http://drorbn.net/AcademicPensieve/Classes/2021-257-AnalysisII/2021-257-Week_12_In-Class_Notes.pdf)</a>.</p> <p>Friday: HW9 was due at 11:59PM.</p>






















#	Week of ...	
13	December 7	<p>Monday's class - Volumes of balls and spheres. Videos: <a href="https://play.library.utoronto.ca/588dcf55cc961f961d6e51a9cc3922f5">SD</a> , <a href="https://play.library.utoronto.ca/4696fb3bfe76f0d76608f48b3027a01a">HD</a> . Computations for the "Cube of Oranges" riddle are <a href="http://drorbn.net/AcademicPensieve/Classes/2021-257-AnalysisII/nb/CubeOfOranges.pdf">here</a>  (<a href="http://drorbn.net/AcademicPensieve/Classes/2021-257-AnalysisII/nb/CubeOfOranges.pdf">http://drorbn.net/AcademicPensieve/Classes/2021-257-AnalysisII/nb/CubeOfOranges.pdf</a>).</p> <p>Wednesday's class - Proof of the Change of Variables formula (1). Videos: <a href="https://play.library.utoronto.ca/5f851ce86f33d03a59ef6555ce5c2d08">SD</a> , <a href="https://play.library.utoronto.ca/60649c3b4080c8355e9a2e2d41665cb1">HD</a>  (<a href="https://play.library.utoronto.ca/60649c3b4080c8355e9a2e2d41665cb1">https://play.library.utoronto.ca/60649c3b4080c8355e9a2e2d41665cb1</a>).</p> <p>Wednesday: HW10 was due at 11:59PM.</p> <p>Thursday was UofT "Makeup Day" - we had a class! Proof of the Change of Variables formula (2). Videos: <a href="https://play.library.utoronto.ca/2b21b0cd60e845cd00ec3604b89d917a">SD</a> , <a href="https://play.library.utoronto.ca/99930693fb8480b462888d72ce3d6471">HD</a>  (<a href="https://play.library.utoronto.ca/99930693fb8480b462888d72ce3d6471">https://play.library.utoronto.ca/99930693fb8480b462888d72ce3d6471</a>).</p> <p>This week's in-class notes are <a href="http://drorbn.net/AcademicPensieve/Classes/2021-257-AnalysisII/2021-257-Week_13_In-Class_Notes.pdf">here</a>  (<a href="http://drorbn.net/AcademicPensieve/Classes/2021-257-AnalysisII/2021-257-Week_13_In-Class_Notes.pdf">http://drorbn.net/AcademicPensieve/Classes/2021-257-AnalysisII/2021-257-Week_13_In-Class_Notes.pdf</a>).</p> <p>Fall final assessments begin on Friday.</p>
FF1	December 14	Fall Final Assessments.
FF2	December 21	Fall Final Assessments end on Tuesday.
V	January 4	Evil virus reflection week - no classes.
14	January 11	<p>Monday's class - review and continuation of the COV formula. Videos: <a href="https://play.library.utoronto.ca/3b956a5fbd3da0768efb0a16a701d44">SD</a> , <a href="https://play.library.utoronto.ca/d08a6124ae44d67c4d92f1ac379eb75e">HD</a>  (<a href="https://play.library.utoronto.ca/d08a6124ae44d67c4d92f1ac379eb75e">https://play.library.utoronto.ca/d08a6124ae44d67c4d92f1ac379eb75e</a>).</p> <p>Wednesday's class - Proof of the Change of Variables formula: continuous to integrable. Videos: <a href="https://play.library.utoronto.ca/917844fe7c3579b649a4190e0a2308fd">SD</a> , <a href="https://play.library.utoronto.ca/6a9860637e759aff5c76dd9743248c3d">HD</a>  (<a href="https://play.library.utoronto.ca/6a9860637e759aff5c76dd9743248c3d">https://play.library.utoronto.ca/6a9860637e759aff5c76dd9743248c3d</a>).</p> <p>Friday's class - Baby Sard. Videos: <a href="https://play.library.utoronto.ca/87932d65ec1839d61275987e632c6be2">SD</a> , <a href="https://play.library.utoronto.ca/85457c28920444bdf7442d3eff0765a">HD</a>  (<a href="https://play.library.utoronto.ca/85457c28920444bdf7442d3eff0765a">https://play.library.utoronto.ca/85457c28920444bdf7442d3eff0765a</a>).</p> <p>This week's in-class notes are <a href="http://drorbn.net/AcademicPensieve/Classes/2021-257-AnalysisII/2021-257-Week_14_In-Class_Notes.pdf">here</a>  (<a href="http://drorbn.net/AcademicPensieve/Classes/2021-257-AnalysisII/2021-257-Week_14_In-Class_Notes.pdf">http://drorbn.net/AcademicPensieve/Classes/2021-257-AnalysisII/2021-257-Week_14_In-Class_Notes.pdf</a>).</p> <p>Friday's tutorial notes are <a href="http://drorbn.net/AcademicPensieve/Classes/2021-257-AnalysisII/Tutorial-Kosenko-210115.pdf">here</a>  (<a href="http://drorbn.net/AcademicPensieve/Classes/2021-257-AnalysisII/Tutorial-Kosenko-210115.pdf">http://drorbn.net/AcademicPensieve/Classes/2021-257-AnalysisII/Tutorial-Kosenko-210115.pdf</a>).</p>
15	January 18	<p>Monday's class - tensors. Videos: <a href="https://play.library.utoronto.ca/dc98ce0ea60732ae679c28b266d409a7">SD</a> , <a href="https://play.library.utoronto.ca/899aa6cffbb62bf3751651da98aea70c">HD</a>  (<a href="https://play.library.utoronto.ca/899aa6cffbb62bf3751651da98aea70c">https://play.library.utoronto.ca/899aa6cffbb62bf3751651da98aea70c</a>).</p> <p>Term Test 2 online, on Tuesday at 5-7PM. See <a href="https://q.utoronto.ca/courses/183900">details here</a> (<a href="https://q.utoronto.ca/courses/183900">https://q.utoronto.ca/courses/183900</a>).</p>



#	Week of ...
	<p><a href="#">/discussion_topics/1018636</a>). See <a href="#">PDF</a> <a href="http://drorbn.net/AcademicPensieve/Classes/2021-257-AnalysisII/2021-257-TT2.pdf">_ (http://drorbn.net/AcademicPensieve/Classes/2021-257-AnalysisII/2021-257-TT2.pdf)</a>.</p> <p>Wednesday's class - bases and dual bases, more on tensors. Videos: <a href="#">SD</a> <a href="https://play.library.utoronto.ca/1e2f38a23e3e6d840f28c4f924a0ad7b">_ (https://play.library.utoronto.ca/1e2f38a23e3e6d840f28c4f924a0ad7b)</a>, <a href="#">HD</a> <a href="https://play.library.utoronto.ca/af61f2f14809871bc81a56a6182001a2">_ (https://play.library.utoronto.ca/af61f2f14809871bc81a56a6182001a2)</a>.</p> <p>Wednesday: No Shuyang office hour.</p> <p>Wednesday: HW11 is on Crowdmark, with a PDF copy <a href="#">here</a> <a href="http://drorbn.net/AcademicPensieve/Classes/2021-257-AnalysisII/HW11.pdf">_ (http://drorbn.net/AcademicPensieve/Classes/2021-257-AnalysisII/HW11.pdf)</a>. It is due thenext Wednesday, on January 27 at 11:59PM.</p> <p>Friday's class - a basis for <math>k</math>-tensors, pushforwards and pullbacks. Videos: <a href="#">SD</a> <a href="https://play.library.utoronto.ca/dcb8c3330e1c4547fb5809ccfef4f667">_ (https://play.library.utoronto.ca/dcb8c3330e1c4547fb5809ccfef4f667)</a>, <a href="#">HD</a> <a href="https://play.library.utoronto.ca/ad8a88cfc1db31e7bb678a0cd11572a2">_ (https://play.library.utoronto.ca/ad8a88cfc1db31e7bb678a0cd11572a2)</a>.</p> <p>This week's in-class notes are <a href="#">here</a> <a href="http://drorbn.net/AcademicPensieve/Classes/2021-257-AnalysisII/2021-257-Week_15_In-Class_Notes.pdf">_ (http://drorbn.net/AcademicPensieve/Classes/2021-257-AnalysisII/2021-257-Week_15_In-Class_Notes.pdf)</a>.</p> <p>Friday's tutorial notes are <a href="#">here</a> <a href="http://drorbn.net/AcademicPensieve/Classes/2021-257-AnalysisII/Tutorial-Kosenko-210122.pdf">_ (http://drorbn.net/AcademicPensieve/Classes/2021-257-AnalysisII/Tutorial-Kosenko-210122.pdf)</a>.</p>

#	Week of ...	
16	January 25	<p>Monday's class - alternating tensors. Videos: <a href="https://play.library.utoronto.ca/685ce11a562cf304dd2252dadcd18086b">SD</a> <a href="https://play.library.utoronto.ca/8dd93e7d11390c0dc92901caeb9a560a">_</a>, <a href="https://play.library.utoronto.ca/8dd93e7d11390c0dc92901caeb9a560a">HD</a> <a href="https://play.library.utoronto.ca/8dd93e7d11390c0dc92901caeb9a560a">_</a>.</p> <p>Monday: No Sebastian office hour.</p> <p>Wednesday's class - counting alternating tensors. Videos: <a href="https://play.library.utoronto.ca/3c9aa80d90cdc2c380edcf597fc0f347">SD</a> <a href="https://play.library.utoronto.ca/3c9aa80d90cdc2c380edcf597fc0f347">_</a>, <a href="https://play.library.utoronto.ca/7497850e74449a5710526df17b3770cb">HD</a> <a href="https://play.library.utoronto.ca/7497850e74449a5710526df17b3770cb">_</a>.</p> <p>Wednesday: HW12 is on Crowdmark, with a PDF copy <a href="http://drorbn.net/AcademicPensieve/Classes/2021-257-AnalysisII/HW12.pdf">here</a> <a href="http://drorbn.net/AcademicPensieve/Classes/2021-257-AnalysisII/HW12.pdf">_</a>. It was due the next Wednesday, on February 3 at 11:59PM. Solutions sets (<a href="https://q.utoronto.ca/courses/183900/pages/solution-sets-warning">warning (https://q.utoronto.ca/courses/183900/pages/solution-sets-warning)</a>): <a href="http://drorbn.net/AcademicPensieve/Classes/2021-257-AnalysisII/SS/HW12_Sol_1.pdf">Sol12-1</a> <a href="http://drorbn.net/AcademicPensieve/Classes/2021-257-AnalysisII/SS/HW12_Sol_1.pdf">_</a>.</p> <p>Wednesday: HW11 was due at 11:59PM.</p> <p>Wednesday: No Shuyang office hour.</p> <p>Friday's class - counting alternating tensors, counting non-decreasing sequences. Videos: <a href="https://play.library.utoronto.ca/139b1e4f6555609f573a6fca676d3bc">SD</a> <a href="https://play.library.utoronto.ca/139b1e4f6555609f573a6fca676d3bc">_</a>, <a href="https://play.library.utoronto.ca/77dc39b0a9284adfff69bb9f91dcb623">HD</a> <a href="https://play.library.utoronto.ca/77dc39b0a9284adfff69bb9f91dcb623">_</a>.</p> <p>This week's in-class notes are <a href="http://drorbn.net/AcademicPensieve/Classes/2021-257-AnalysisII/2021-257-Week_16_In-Class_Notes.pdf">here</a> <a href="http://drorbn.net/AcademicPensieve/Classes/2021-257-AnalysisII/2021-257-Week_16_In-Class_Notes.pdf">_</a>.</p> <p>Friday's tutorial notes are <a href="http://drorbn.net/AcademicPensieve/Classes/2021-257-AnalysisII/Tutorial-Kosenko-210129.pdf">here</a> <a href="http://drorbn.net/AcademicPensieve/Classes/2021-257-AnalysisII/Tutorial-Kosenko-210129.pdf">_</a>.</p>
17	February 1	<p>Monday's class - wedge products. Videos: <a href="https://play.library.utoronto.ca/ab27d51dbc01e59f42db8eea013819f0">SD</a> <a href="https://play.library.utoronto.ca/ab27d51dbc01e59f42db8eea013819f0">_</a>, <a href="https://play.library.utoronto.ca/68fddc2ec450c0db29e8d6a2f0d261e4">HD</a> <a href="https://play.library.utoronto.ca/68fddc2ec450c0db29e8d6a2f0d261e4">_</a>.</p> <p>Monday: No Sebastian office hour.</p> <p>Tuesday: HW13 is on Crowdmark, with a PDF copy <a href="http://drorbn.net/AcademicPensieve/Classes/2021-257-AnalysisII/HW13.pdf">here</a> <a href="http://drorbn.net/AcademicPensieve/Classes/2021-257-AnalysisII/HW13.pdf">_</a>. It was due the next Wednesday, on February 10 at 11:59PM. Solutions sets (<a href="https://q.utoronto.ca/courses/183900/pages/solution-sets-warning">warning (https://q.utoronto.ca/courses/183900/pages/solution-sets-warning)</a>): <a href="http://drorbn.net/AcademicPensieve/Classes/2021-257-AnalysisII/SS/HW13_Sol_1.pdf">Sol13-1</a> <a href="http://drorbn.net/AcademicPensieve/Classes/2021-257-AnalysisII/SS/HW13_Sol_1.pdf">_</a>.</p> <p>Wednesday: HW12 was due at 11:59PM.</p> <p>Wednesday's class - more wedge products. Videos: <a href="https://play.library.utoronto.ca/90965cf469894ef73a093a70fa0f117f">SD</a> <a href="https://play.library.utoronto.ca/90965cf469894ef73a093a70fa0f117f">_</a>, <a href="https://play.library.utoronto.ca/8de883b24aeb82e4b64a4cd2e2ba2a02">HD</a> <a href="https://play.library.utoronto.ca/8de883b24aeb82e4b64a4cd2e2ba2a02">_</a>.</p> <p>Wednesday at 11:59PM: HW12 was due.</p> <p>Friday's class - orientations, tangent vectors. Videos: <a href="https://play.library.utoronto.ca">SD</a> <a href="https://play.library.utoronto.ca">_</a>.</p>

#	Week of ...	
		<p><a href="https://play.library.utoronto.ca/d6ab93774737063f8097b457be7ae222">/da03f96433fc2b59a133236b9bf10c3c</a>), <a href="https://play.library.utoronto.ca/d6ab93774737063f8097b457be7ae222">HD</a>  <a href="https://play.library.utoronto.ca/d6ab93774737063f8097b457be7ae222">_(https://play.library.utoronto.ca/d6ab93774737063f8097b457be7ae222)</a>.</p> <p>This week's in-class notes are <a href="http://drorbn.net/AcademicPensieve/Classes/2021-257-AnalysisII/2021-257-Week_17_In-Class_Notes.pdf">here</a>  <a href="http://drorbn.net/AcademicPensieve/Classes/2021-257-AnalysisII/2021-257-Week_17_In-Class_Notes.pdf">_(http://drorbn.net/AcademicPensieve/Classes/2021-257-AnalysisII/2021-257-Week_17_In-Class_Notes.pdf)</a>.</p> <p>Friday's tutorial notes are <a href="http://drorbn.net/AcademicPensieve/Classes/2021-257-AnalysisII/Tutorial-Kosenko-210205.pdf">here</a>  <a href="http://drorbn.net/AcademicPensieve/Classes/2021-257-AnalysisII/Tutorial-Kosenko-210205.pdf">_(http://drorbn.net/AcademicPensieve/Classes/2021-257-AnalysisII/Tutorial-Kosenko-210205.pdf)</a>.</p>
18	February 8	<p>Monday's class - tangent vectors and directional derivatives. Videos: <a href="https://play.library.utoronto.ca/a3e98defc5e2554ce4311aefba1a5323">SD</a>  <a href="https://play.library.utoronto.ca/a3e98defc5e2554ce4311aefba1a5323">_(https://play.library.utoronto.ca/a3e98defc5e2554ce4311aefba1a5323)</a>, <a href="https://play.library.utoronto.ca/bc4a684c4aa09e66a29124682b7b6a50">HD</a>  <a href="https://play.library.utoronto.ca/bc4a684c4aa09e66a29124682b7b6a50">_(https://play.library.utoronto.ca/bc4a684c4aa09e66a29124682b7b6a50)</a>.</p> <p>Monday: HW14 is on Crowdmark, with a PDF copy <a href="http://drorbn.net/AcademicPensieve/Classes/2021-257-AnalysisII/HW14.pdf">here</a>  <a href="http://drorbn.net/AcademicPensieve/Classes/2021-257-AnalysisII/HW14.pdf">_(http://drorbn.net/AcademicPensieve/Classes/2021-257-AnalysisII/HW14.pdf)</a>. It was due on Monday February 22 at 11:59PM.</p> <p>Wednesday's class - differential forms, <math>df</math>. Videos: <a href="https://play.library.utoronto.ca/834013948afd2e19b2a9747563e53c4e">SD</a>  <a href="https://play.library.utoronto.ca/834013948afd2e19b2a9747563e53c4e">_(https://play.library.utoronto.ca/834013948afd2e19b2a9747563e53c4e)</a>, <a href="https://play.library.utoronto.ca/939361734b5eb71ba2961fe64a67d484">HD</a>  <a href="https://play.library.utoronto.ca/939361734b5eb71ba2961fe64a67d484">_(https://play.library.utoronto.ca/939361734b5eb71ba2961fe64a67d484)</a>.</p> <p>Friday's class - <math>d</math>. Videos: <a href="https://play.library.utoronto.ca/28c9e53433d399f0cd1bda7e1e92d3e9">SD</a>  <a href="https://play.library.utoronto.ca/28c9e53433d399f0cd1bda7e1e92d3e9">_(https://play.library.utoronto.ca/28c9e53433d399f0cd1bda7e1e92d3e9)</a>, <a href="https://play.library.utoronto.ca/e7e2f8f84bf1d8383548e8604da38195">HD</a>  <a href="https://play.library.utoronto.ca/e7e2f8f84bf1d8383548e8604da38195">_(https://play.library.utoronto.ca/e7e2f8f84bf1d8383548e8604da38195)</a>.</p> <p>Wednesday at 11:59PM: HW13 was due.</p> <p>This week's in-class notes are <a href="http://drorbn.net/AcademicPensieve/Classes/2021-257-AnalysisII/2021-257-Week_18_In-Class_Notes.pdf">here</a>  <a href="http://drorbn.net/AcademicPensieve/Classes/2021-257-AnalysisII/2021-257-Week_18_In-Class_Notes.pdf">_(http://drorbn.net/AcademicPensieve/Classes/2021-257-AnalysisII/2021-257-Week_18_In-Class_Notes.pdf)</a>.</p> <p>Friday's tutorial notes are <a href="http://drorbn.net/AcademicPensieve/Classes/2021-257-AnalysisII/Tutorial-Kosenko-210212.pdf">here</a>  <a href="http://drorbn.net/AcademicPensieve/Classes/2021-257-AnalysisII/Tutorial-Kosenko-210212.pdf">_(http://drorbn.net/AcademicPensieve/Classes/2021-257-AnalysisII/Tutorial-Kosenko-210212.pdf)</a>.</p>
R	February 15	Reading Week - no classes, no tutorials, no office hours.
19	February 22	<p>Monday's class - <math>d</math>. Videos: <a href="https://play.library.utoronto.ca/f26ee5c5f8f14c2457ffa68af2910f39">SD</a>  <a href="https://play.library.utoronto.ca/f26ee5c5f8f14c2457ffa68af2910f39">_(https://play.library.utoronto.ca/f26ee5c5f8f14c2457ffa68af2910f39)</a>, <a href="https://play.library.utoronto.ca/387c7ed78e6aa23ba6a95112aa55c1db">HD</a>  <a href="https://play.library.utoronto.ca/387c7ed78e6aa23ba6a95112aa55c1db">_(https://play.library.utoronto.ca/387c7ed78e6aa23ba6a95112aa55c1db)</a>.</p> <p>Monday: HW15 is on Crowdmark, with a PDF copy <a href="http://drorbn.net/AcademicPensieve/Classes/2021-257-AnalysisII/HW15.pdf">here</a>  <a href="http://drorbn.net/AcademicPensieve/Classes/2021-257-AnalysisII/HW15.pdf">_(http://drorbn.net/AcademicPensieve/Classes/2021-257-AnalysisII/HW15.pdf)</a>. It is due on Monday March 1 at 11:59PM.</p> <p>Monday at 11:59PM: HW14 was due.</p> <p>Wednesday's class - the geometric meaning of <math>d</math>. Videos: <a href="https://play.library.utoronto.ca/88f7eef4b1a94bd8b98076d255b00017">SD</a>  <a href="https://play.library.utoronto.ca/88f7eef4b1a94bd8b98076d255b00017">_(https://play.library.utoronto.ca/88f7eef4b1a94bd8b98076d255b00017)</a>, <a href="https://play.library.utoronto.ca/f366cd1bb19326d3745e10f3079a212e">HD</a>  <a href="https://play.library.utoronto.ca/f366cd1bb19326d3745e10f3079a212e">_(https://play.library.utoronto.ca/f366cd1bb19326d3745e10f3079a212e)</a>.</p> <p>Friday's class - cubes and chains. Videos: <a href="https://play.library.utoronto.ca/8499a8914d1b5fbec389f0326b543143">SD</a>  <a href="https://play.library.utoronto.ca/8499a8914d1b5fbec389f0326b543143">_(https://play.library.utoronto.ca/8499a8914d1b5fbec389f0326b543143)</a>, <a href="https://play.library.utoronto.ca/47a026b7f8b8de62fc0301287a8f430a">HD</a>  <a href="https://play.library.utoronto.ca/47a026b7f8b8de62fc0301287a8f430a">_(https://play.library.utoronto.ca/47a026b7f8b8de62fc0301287a8f430a)</a>.</p>

#	Week of ...	
		<p>This week's in-class notes are <a href="http://drorbn.net/AcademicPensieve/Classes/2021-257-AnalysisII/2021-257-Week_19_In-Class_Notes.pdf">here</a>  <a href="http://drorbn.net/AcademicPensieve/Classes/2021-257-AnalysisII/2021-257-Week_19_In-Class_Notes.pdf">.(http://drorbn.net/AcademicPensieve/Classes/2021-257-AnalysisII/2021-257-Week_19_In-Class_Notes.pdf)</a>.</p> <p>Friday's tutorial notes are <a href="http://drorbn.net/AcademicPensieve/Classes/2021-257-AnalysisII/Tutorial-Kosenko-210226.pdf">here</a>  <a href="http://drorbn.net/AcademicPensieve/Classes/2021-257-AnalysisII/Tutorial-Kosenko-210226.pdf">.(http://drorbn.net/AcademicPensieve/Classes/2021-257-AnalysisII/Tutorial-Kosenko-210226.pdf)</a>.</p>
20	March 1	<p>Monday's class - the boundary of a boundary, integration on chains. Videos: <a href="https://play.library.utoronto.ca/44ba31d68e8198e3aca4b6ec3c0db3ef">SD</a>  <a href="https://play.library.utoronto.ca/44ba31d68e8198e3aca4b6ec3c0db3ef">.(https://play.library.utoronto.ca/44ba31d68e8198e3aca4b6ec3c0db3ef)</a>, <a href="https://play.library.utoronto.ca/e12deed78bfc9afd3dc0783767243174">HD</a>  <a href="https://play.library.utoronto.ca/e12deed78bfc9afd3dc0783767243174">.(https://play.library.utoronto.ca/e12deed78bfc9afd3dc0783767243174)</a>.</p> <p>Monday at 11:59PM: HW15 was due.</p> <p>Wednesday's class - integration on chains, pullbacks and pushforwards. Videos: <a href="https://play.library.utoronto.ca/d1880a36253ef762480794833983ba3c">SD</a>  <a href="https://play.library.utoronto.ca/d1880a36253ef762480794833983ba3c">.(https://play.library.utoronto.ca/d1880a36253ef762480794833983ba3c)</a>, <a href="https://play.library.utoronto.ca/dcafbfd6fc2e029a0f559f67e4e989a8c">HD</a>  <a href="https://play.library.utoronto.ca/dcafbfd6fc2e029a0f559f67e4e989a8c">.(https://play.library.utoronto.ca/dcafbfd6fc2e029a0f559f67e4e989a8c)</a>.</p> <p>Friday's class - proof of Stokes' theorem on chains. Videos: <a href="https://play.library.utoronto.ca/19d6d71fb6ab0943543e57c81a137bee">SD</a>  <a href="https://play.library.utoronto.ca/19d6d71fb6ab0943543e57c81a137bee">.(https://play.library.utoronto.ca/19d6d71fb6ab0943543e57c81a137bee)</a>, <a href="https://play.library.utoronto.ca/e46752549d4bd42035efedd53272a9a2">HD</a>  <a href="https://play.library.utoronto.ca/e46752549d4bd42035efedd53272a9a2">.(https://play.library.utoronto.ca/e46752549d4bd42035efedd53272a9a2)</a>.</p> <p>This week's in-class notes are <a href="http://drorbn.net/AcademicPensieve/Classes/2021-257-AnalysisII/2021-257-Week_20_In-Class_Notes.pdf">here</a>  <a href="http://drorbn.net/AcademicPensieve/Classes/2021-257-AnalysisII/2021-257-Week_20_In-Class_Notes.pdf">.(http://drorbn.net/AcademicPensieve/Classes/2021-257-AnalysisII/2021-257-Week_20_In-Class_Notes.pdf)</a>.</p> <p>Friday 10:30-11:30: Extra Shuyang office hour on <a href="https://utoronto.zoom.us/j/83428997680">Shuyang's Zoom</a>  <a href="https://utoronto.zoom.us/j/83428997680">.(https://utoronto.zoom.us/j/83428997680)</a> (password vchat).</p> <p>Friday's tutorial notes are <a href="http://drorbn.net/AcademicPensieve/Classes/2021-257-AnalysisII/Tutorial-Kosenko-210305.pdf">here</a>  <a href="http://drorbn.net/AcademicPensieve/Classes/2021-257-AnalysisII/Tutorial-Kosenko-210305.pdf">.(http://drorbn.net/AcademicPensieve/Classes/2021-257-AnalysisII/Tutorial-Kosenko-210305.pdf)</a>.</p>
21	March 8	<p>Monday's class - manifolds, examples. Videos: <a href="https://play.library.utoronto.ca/f2cb16de436b528675ff033500d361d2">SD</a>  <a href="https://play.library.utoronto.ca/f2cb16de436b528675ff033500d361d2">.(https://play.library.utoronto.ca/f2cb16de436b528675ff033500d361d2)</a>, <a href="https://play.library.utoronto.ca/1966a08e32cbc1890b6e8842561598f6">HD</a>  <a href="https://play.library.utoronto.ca/1966a08e32cbc1890b6e8842561598f6">.(https://play.library.utoronto.ca/1966a08e32cbc1890b6e8842561598f6)</a>.</p> <p>Monday 11-2: extra Sebastian office hours on <a href="https://us02web.zoom.us/j/88310099689?pwd=S1dTNmJDZkRBNW5QWENWcWtyWm5QQT09">Sebastian's Zoom</a>  <a href="https://us02web.zoom.us/j/88310099689?pwd=S1dTNmJDZkRBNW5QWENWcWtyWm5QQT09">.(https://us02web.zoom.us/j/88310099689?pwd=S1dTNmJDZkRBNW5QWENWcWtyWm5QQT09)</a>,</p> <p>Tuesday 10:30-11:30: Extra Shuyang office hour on <a href="https://utoronto.zoom.us/j/83428997680">Shuyang's Zoom</a>  <a href="https://utoronto.zoom.us/j/83428997680">.(https://utoronto.zoom.us/j/83428997680)</a> (password vchat).</p> <p>Tuesday at 5-7PM: Term Test 3 on Crowdmark. Info and prep questions are <a href="http://drorbn.net/AcademicPensieve/Classes/2021-257-AnalysisII/TT3-Info.pdf">here</a>  <a href="http://drorbn.net/AcademicPensieve/Classes/2021-257-AnalysisII/TT3-Info.pdf">.(http://drorbn.net/AcademicPensieve/Classes/2021-257-AnalysisII/TT3-Info.pdf)</a>. See <a href="http://drorbn.net/AcademicPensieve/Classes/2021-257-AnalysisII/2021-257-TT3.pdf">PDF</a>  <a href="http://drorbn.net/AcademicPensieve/Classes/2021-257-AnalysisII/2021-257-TT3.pdf">.(http://drorbn.net/AcademicPensieve/Classes/2021-257-AnalysisII/2021-257-TT3.pdf)</a>. Solutions sets (<a href="https://q.utoronto.ca/courses/183900/pages/solution-sets-warning">warning</a> <a href="https://q.utoronto.ca/courses/183900/pages/solution-sets-warning">.(https://q.utoronto.ca/courses/183900/pages/solution-sets-warning)</a>): <a href="http://drorbn.net/AcademicPensieve/Classes/2021-257-AnalysisII/SS/TT3_Sol_1.pdf">TT3_Sol-1</a>  <a href="http://drorbn.net/AcademicPensieve/Classes/2021-257-AnalysisII/SS/TT3_Sol_1.pdf">.(http://drorbn.net/AcademicPensieve/Classes/2021-257-AnalysisII/SS/TT3_Sol_1.pdf)</a>, <a href="http://drorbn.net/AcademicPensieve/Classes/2021-257-AnalysisII/SS/TT3_Sol_2.pdf">TT3_Sol-2</a>  <a href="http://drorbn.net/AcademicPensieve/Classes/2021-257-AnalysisII/SS/TT3_Sol_2.pdf">.(http://drorbn.net/AcademicPensieve/Classes/2021-257-AnalysisII/SS/TT3_Sol_2.pdf)</a>.</p> <p>Tuesday: HW16 is on Crowdmark, with a PDF copy <a href="http://drorbn.net/AcademicPensieve/Classes/2021-257-AnalysisII/HW16.pdf">here</a>  <a href="http://drorbn.net/AcademicPensieve/Classes/2021-257-AnalysisII/HW16.pdf">.(http://drorbn.net/AcademicPensieve/Classes/2021-257-AnalysisII/HW16.pdf)</a>. It is due on Wednesday March 17 at 11:59PM.</p> <p>Wednesday's class: Manifolds - the three local properties. Videos: <a href="#">SD</a> </p>

#	Week of ...	
		<p>(<a href="https://play.library.utoronto.ca/f4785f76b1057e963d9fda29e4fc8695">https://play.library.utoronto.ca/f4785f76b1057e963d9fda29e4fc8695</a>), <a href="#">HD</a> </p> <p>(<a href="https://play.library.utoronto.ca/9a9c2f49da547fc5b9434824ab221a0d">https://play.library.utoronto.ca/9a9c2f49da547fc5b9434824ab221a0d</a>).</p> <p>Wednesday: No Shuyang office hour.</p> <p>Friday's class: Manifolds and coordinate patches. Videos: <a href="#">SD</a>  (<a href="https://play.library.utoronto.ca/146235dfa3a93614e147501274530e57">https://play.library.utoronto.ca/146235dfa3a93614e147501274530e57</a>), <a href="#">HD</a>  (<a href="https://play.library.utoronto.ca/d47a31459448e74152c0a24037fc8dd7">https://play.library.utoronto.ca/d47a31459448e74152c0a24037fc8dd7</a>).</p> <p>This week's in-class notes are <a href="http://drorbn.net/AcademicPensieve/Classes/2021-257-AnalysisII/2021-257-Week_21_In-Class_Notes.pdf">here</a>  (<a href="http://drorbn.net/AcademicPensieve/Classes/2021-257-AnalysisII/2021-257-Week_21_In-Class_Notes.pdf">http://drorbn.net/AcademicPensieve/Classes/2021-257-AnalysisII/2021-257-Week_21_In-Class_Notes.pdf</a>).</p> <p>Friday's tutorial notes are <a href="http://drorbn.net/AcademicPensieve/Classes/2021-257-AnalysisII/Tutorial-Kosenko-210312.pdf">here</a>  (<a href="http://drorbn.net/AcademicPensieve/Classes/2021-257-AnalysisII/Tutorial-Kosenko-210312.pdf">http://drorbn.net/AcademicPensieve/Classes/2021-257-AnalysisII/Tutorial-Kosenko-210312.pdf</a>).</p>
22	March 15	<p>Monday's class - manifolds with boundary, the tangent space. Videos: <a href="#">SD</a>  (<a href="https://play.library.utoronto.ca/b936cc09a5c14522363ac33527143dc4">https://play.library.utoronto.ca/b936cc09a5c14522363ac33527143dc4</a>), <a href="#">HD</a>  (<a href="https://play.library.utoronto.ca/cf046d20c6dc01c971e0dd08137eb95d">https://play.library.utoronto.ca/cf046d20c6dc01c971e0dd08137eb95d</a>).</p> <p>Monday: No Sebastian office hour.</p> <p>Tuesday: HW17 is on Crowdmark, with a PDF copy <a href="http://drorbn.net/AcademicPensieve/Classes/2021-257-AnalysisII/HW17.pdf">here</a>  (<a href="http://drorbn.net/AcademicPensieve/Classes/2021-257-AnalysisII/HW17.pdf">http://drorbn.net/AcademicPensieve/Classes/2021-257-AnalysisII/HW17.pdf</a>). It is due on Wednesday March 24 at 11:59PM.</p> <p>Wednesday's class: Forms on manifolds. Videos: <a href="#">SD</a>  (<a href="https://play.library.utoronto.ca/75c506a41b87f9a78894ffa4322f335e">https://play.library.utoronto.ca/75c506a41b87f9a78894ffa4322f335e</a>), <a href="#">HD</a>  (<a href="https://play.library.utoronto.ca/bc40b07b51c670daf03549de038b6160">https://play.library.utoronto.ca/bc40b07b51c670daf03549de038b6160</a>).</p> <p>Wednesday: No Shuyang office hour.</p> <p>Wednesday: HW 16 was due at 11:59PM.</p> <p>Friday's class: Orientations. Videos: <a href="#">SD</a>  (<a href="https://play.library.utoronto.ca/ccbcfa2df6514544f085aec32439a3ae">https://play.library.utoronto.ca/ccbcfa2df6514544f085aec32439a3ae</a>), <a href="#">HD</a>  (<a href="https://play.library.utoronto.ca/3bd314a5609757cb93a5c0e5baa269a4">https://play.library.utoronto.ca/3bd314a5609757cb93a5c0e5baa269a4</a>).</p> <p>This week's in-class notes are <a href="http://drorbn.net/AcademicPensieve/Classes/2021-257-AnalysisII/2021-257-Week_22_In-Class_Notes.pdf">here</a>  (<a href="http://drorbn.net/AcademicPensieve/Classes/2021-257-AnalysisII/2021-257-Week_22_In-Class_Notes.pdf">http://drorbn.net/AcademicPensieve/Classes/2021-257-AnalysisII/2021-257-Week_22_In-Class_Notes.pdf</a>).</p> <p>Friday's tutorial notes are <a href="http://drorbn.net/AcademicPensieve/Classes/2021-257-AnalysisII/Tutorial-Kosenko-210319.pdf">here</a>  (<a href="http://drorbn.net/AcademicPensieve/Classes/2021-257-AnalysisII/Tutorial-Kosenko-210319.pdf">http://drorbn.net/AcademicPensieve/Classes/2021-257-AnalysisII/Tutorial-Kosenko-210319.pdf</a>).</p>
23	March 22	<p>Monday's class - orienting the boundary. Videos: <a href="#">SD</a>  (<a href="https://play.library.utoronto.ca/76ad254a1e7ff45cf5129ac7a51fa35e">https://play.library.utoronto.ca/76ad254a1e7ff45cf5129ac7a51fa35e</a>), <a href="#">HD</a>  (<a href="https://play.library.utoronto.ca/808eb4eb028f01310c2716e8f12e7458">https://play.library.utoronto.ca/808eb4eb028f01310c2716e8f12e7458</a>).</p> <p>Monday: No Sebastian office hour.</p> <p>Monday: HW18 is on Crowdmark, with a PDF copy <a href="http://drorbn.net/AcademicPensieve/Classes/2021-257-AnalysisII/HW18.pdf">here</a>  (<a href="http://drorbn.net/AcademicPensieve/Classes/2021-257-AnalysisII/HW18.pdf">http://drorbn.net/AcademicPensieve/Classes/2021-257-AnalysisII/HW18.pdf</a>). It is due on Monday March 29 at 11:59PM.</p> <p>Wednesday's class - orienting the boundary, integration. Videos: <a href="#">SD</a> </p>





#	Week of ...	
		<p>A handout on <a href="http://drorbn.net/AcademicPensieve/Classes/2021-257-AnalysisII/Maxwell.pdf">Maxwell's Equations</a> <a href="http://drorbn.net/AcademicPensieve/Classes/2021-257-AnalysisII/Maxwell.pdf">. (http://drorbn.net/AcademicPensieve/Classes/2021-257-AnalysisII/Maxwell.pdf)</a>.</p> <p>Friday's class - the 3D theorems and prep for Maxwell. Videos: <a href="https://play.library.utoronto.ca/06cef8d95597740846dfa026fa479919">SD</a> <a href="https://play.library.utoronto.ca/06cef8d95597740846dfa026fa479919">. (https://play.library.utoronto.ca/06cef8d95597740846dfa026fa479919)</a>, <a href="https://play.library.utoronto.ca/9c3578c93759ee592cdc8fa779071c24">HD</a> <a href="https://play.library.utoronto.ca/9c3578c93759ee592cdc8fa779071c24">. (https://play.library.utoronto.ca/9c3578c93759ee592cdc8fa779071c24)</a>.</p> <p>This week's in-class notes start <a href="http://drorbn.net/AcademicPensieve/Classes/2021-257-AnalysisII/2021-257-Week_25_In-Class_Notes.pdf">here</a> <a href="http://drorbn.net/AcademicPensieve/Classes/2021-257-AnalysisII/2021-257-Week_25_In-Class_Notes.pdf">. (http://drorbn.net/AcademicPensieve/Classes/2021-257-AnalysisII/2021-257-Week_25_In-Class_Notes.pdf)</a>, and continued about the Maxwell Equations <a href="http://drorbn.net/AcademicPensieve/Classes/2021-257-AnalysisII/Maxwell-Slides@210409.pdf">here</a> <a href="http://drorbn.net/AcademicPensieve/Classes/2021-257-AnalysisII/Maxwell-Slides@210409.pdf">. (http://drorbn.net/AcademicPensieve/Classes/2021-257-AnalysisII/Maxwell-Slides@210409.pdf)</a>.</p> <p>Friday's tutorial notes are <a href="http://drorbn.net/AcademicPensieve/Classes/2021-257-AnalysisII/Tutorial-Kosenko-210409.pdf">here</a> <a href="http://drorbn.net/AcademicPensieve/Classes/2021-257-AnalysisII/Tutorial-Kosenko-210409.pdf">. (http://drorbn.net/AcademicPensieve/Classes/2021-257-AnalysisII/Tutorial-Kosenko-210409.pdf)</a>.</p>
26	April 12	<p>Monday is UofT "Makeup Day" - we will have a class at 9AM, but no Petr's "Friday" tutorial.</p> <p>Monday's class - Maxwell's equations. Videos: <a href="https://play.library.utoronto.ca/47d3455141970f08f616637248957512">SD</a> <a href="https://play.library.utoronto.ca/47d3455141970f08f616637248957512">. (https://play.library.utoronto.ca/47d3455141970f08f616637248957512)</a>, <a href="https://play.library.utoronto.ca/056efad364c34d59bdd7e9cb1350b48e">HD</a> <a href="https://play.library.utoronto.ca/056efad364c34d59bdd7e9cb1350b48e">. (https://play.library.utoronto.ca/056efad364c34d59bdd7e9cb1350b48e)</a>.</p> <p>Monday's class notes, more about the Maxwell Equations, are <a href="http://drorbn.net/AcademicPensieve/Classes/2021-257-AnalysisII/Maxwell-Slides@210412.pdf">here</a> <a href="http://drorbn.net/AcademicPensieve/Classes/2021-257-AnalysisII/Maxwell-Slides@210412.pdf">. (http://drorbn.net/AcademicPensieve/Classes/2021-257-AnalysisII/Maxwell-Slides@210412.pdf)</a>.</p> <p>Monday: HW20 was due.</p> <p>Winter finals begin on Tuesday.</p> <p>Tuesday: Dror's office hours as usual, 9-10 and 12-1.</p> <p>Saturday: Peter's office hours 9-12, at <a href="https://utoronto.zoom.us/j/92163708354">Peter's Zoom (https://utoronto.zoom.us/j/92163708354)</a> (password "vchat").</p> <p>Saturday: Dror's office hour 1-3PM (but check again right before).</p> <p>Sunday: Dror's office hour 9-11 and Peter's office hours 1-4, at <a href="https://utoronto.zoom.us/j/92163708354">Peter's Zoom (https://utoronto.zoom.us/j/92163708354)</a> (password "vchat").</p>
WF1	April 19	<p>Monday: Petr office hour 9-11 at <a href="https://utoronto.zoom.us/j/95837717811">Petr's Zoom</a> <a href="https://utoronto.zoom.us/j/95837717811">. (https://utoronto.zoom.us/j/95837717811)</a> (password vchat). The notes are <a href="http://drorbn.net/AcademicPensieve/Classes/2021-257-AnalysisII/OfficeHours-Kosenko-210419.pdf">here</a> <a href="http://drorbn.net/AcademicPensieve/Classes/2021-257-AnalysisII/OfficeHours-Kosenko-210419.pdf">. (http://drorbn.net/AcademicPensieve/Classes/2021-257-AnalysisII/OfficeHours-Kosenko-210419.pdf)</a>.</p> <p>Monday: Dror's office hours 1-3.</p> <p>Tuesday April 20: Our final assessment (old speak: "final exam") took place at 9-12 (morning, Toronto time). Info and prep questions are <a href="http://drorbn.net/AcademicPensieve/Classes/2021-257-AnalysisII/FA-Info.pdf">here</a> <a href="http://drorbn.net/AcademicPensieve/Classes/2021-257-AnalysisII/FA-Info.pdf">. (http://drorbn.net/AcademicPensieve/Classes/2021-257-AnalysisII/FA-Info.pdf)</a>. See <a href="http://drorbn.net/AcademicPensieve/Classes/2021-257-AnalysisII/2021-257-FA.pdf">PDF</a> <a href="http://drorbn.net/AcademicPensieve/Classes/2021-257-AnalysisII/2021-257-FA.pdf">. (http://drorbn.net/AcademicPensieve/Classes/2021-257-AnalysisII/2021-257-FA.pdf)</a>.</p>
WF2	April 26	<p>Winter Final Assessments.</p>

#	Week of ...	
	May 10	Course mark submission deadline (for the instructor) is on Tuesday.

**Further resources:**

- The University of Toronto [Faculty of Arts & Science Calendar \(https://fas.calendar.utoronto.ca/\)](https://fas.calendar.utoronto.ca/).
- Academic integrity [Information for Students \(https://www.artsci.utoronto.ca/current/academic-advising-and-support/student-academic-integrity/\)](https://www.artsci.utoronto.ca/current/academic-advising-and-support/student-academic-integrity/).
- [COVID-19 - Undergraduate Student FAQs \(https://www.artsci.utoronto.ca/covid19-artsci-student-faqs/\)](https://www.artsci.utoronto.ca/covid19-artsci-student-faqs/).
- [Recommended Technology Requirements for Remote/Online Learning \(https://www.viceprovoststudents.utoronto.ca/covid-19/tech-requirements-online-learning/\)](https://www.viceprovoststudents.utoronto.ca/covid-19/tech-requirements-online-learning/).
- Dror's 2016-17 MAT257 Analysis II [class website](http://drorbn.net/index.php?title=1617-257)  [\(http://drorbn.net/index.php?title=1617-257\)](http://drorbn.net/index.php?title=1617-257) and [personal notebook](http://drorbn.net/AcademicPensieve/Classes/1617-257-AnalysisII/index.html)  [\(http://drorbn.net/AcademicPensieve/Classes/1617-257-AnalysisII/index.html\)](http://drorbn.net/AcademicPensieve/Classes/1617-257-AnalysisII/index.html).
- Dror's personal [2021-257-AnalysisII](http://drorbn.net/AcademicPensieve/Classes/2021-257-AnalysisII/)  [\(http://drorbn.net/AcademicPensieve/Classes/2021-257-AnalysisII/\)](http://drorbn.net/AcademicPensieve/Classes/2021-257-AnalysisII/) notebook.