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# **eosc350website Documentation**

***Release 0.0.1***

**UBC GIF**

**Sep 30, 2020**



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# CHAPTER 1

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## Course Description

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Principles of geophysical survey design, data acquisition, processing and interpretation with emphasis on near-surface problems. Magnetic, seismic reflection/refraction, electromagnetic and ground penetrating radar surveys. Case history analysis of environmental and geotechnical problems.

- [Course syllabus](#)

**Your name and team number for TBL assignments can be found here:** [Teams 2019](#)



## CHAPTER 2

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### Course Times

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**Lectures:**

- Mon Wed Fri 13:00-14:00 in ESB 2012

**Labs:**

- Section L1A: Mon 15:00-17:00 in EOS Main 203
- Section L1B: Tue 13:00-15:00 in EOS Main 203

**TBL Teams:**





## CHAPTER 3

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### Contact Information

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#### Instructors:

- Devin Cowan: [dcowan@eoas.ubc.ca](mailto:dcowan@eoas.ubc.ca), ESB 4035 then turn right

Office hours: contact the instructors via email to set up an appointment. Please include 'EOSC350' in the subject line.

#### Teaching Assistants:

- Lucas Fabbri: [lucasfabbri18@gmail.com](mailto:lucasfabbri18@gmail.com)

Office hours: contact the TA's by e-mail or in person for availability. Please include 'EOSC350' in the subject line.

#### Contents

### 3.1 Course Schedule

This page will be updated regularly throughout the year, check it often.

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**Note:** Please print out the labs before attending the lab period!

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**Note:** Please print out the TBL assignments before attending class!

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**Your name and team number for TBL assignments can be found here:** (make link)

**The formula sheet given on the final exam can be downloaded here:** [Formula Sheet](#)

month	day	wk	topics	resources	activity	lab	TA Contact
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Sept	4	1	Introduction and Course Goals	<ul style="list-style-type: none"> <li>• Syllabus</li> </ul>	<ul style="list-style-type: none"> <li>• Intro Lecture</li> </ul>	No Lab	
	6		Physical Properties	<ul style="list-style-type: none"> <li>• GPG Physical Properties</li> </ul>	<ul style="list-style-type: none"> <li>• Physical Properties Lecture</li> </ul>		
	9	2	Seven step framework for geophysics	<ul style="list-style-type: none"> <li>• GPG Foundations</li> </ul>	<ul style="list-style-type: none"> <li>• Framework Lecture</li> </ul>	<ul style="list-style-type: none"> <li>• Lab 1 Physical properties</li> </ul>	<ul style="list-style-type: none"> <li>• Devin</li> <li>• Lucas</li> </ul>
	11			<ul style="list-style-type: none"> <li>• TBL 1 Case History</li> <li>• Prop Practice Questions</li> </ul>	<ul style="list-style-type: none"> <li>• TBL 1 Assignment</li> </ul>		
	13		Magnetics	<ul style="list-style-type: none"> <li>• GPG Magnetics</li> <li>• Magnetic Dipole App</li> <li>• Magnetic Prism App</li> </ul>	<ul style="list-style-type: none"> <li>• Magnetics Lecture 1</li> </ul>		

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	16	3	Magnetics		<ul style="list-style-type: none"> <li>• <a href="#">Magnetics Lecture 2</a></li> </ul>	<ul style="list-style-type: none"> <li>• <a href="#">Lab 2 Magnetism Part 1</a></li> </ul>	<ul style="list-style-type: none"> <li>• <a href="#">Devin</a></li> <li>• <a href="#">Lucas</a></li> </ul>
	18		Magnetics		<ul style="list-style-type: none"> <li>• <a href="#">Magnetics Lecture 3</a></li> </ul>		
	20		Magnetics		<ul style="list-style-type: none"> <li>• <a href="#">Magnetics Lecture 4</a></li> </ul>		
	23	4	Magnetics	<ul style="list-style-type: none"> <li>• <a href="#">TBL 2 Case History</a></li> <li>• <a href="#">Mag Practice Questions</a></li> </ul>	<ul style="list-style-type: none"> <li>• <a href="#">TBL 2 Assignment</a></li> </ul>	<ul style="list-style-type: none"> <li>• <a href="#">Lab 3 Magnetism Part 2</a></li> <li>• <a href="#">Raw Magnetic Data</a></li> </ul>	<ul style="list-style-type: none"> <li>• <a href="#">Devin</a></li> <li>• <a href="#">Lucas</a></li> </ul>
	25		Seismic	<ul style="list-style-type: none"> <li>• <a href="#">GPG Seismic</a></li> <li>• <a href="#">Seismic Refraction App</a></li> <li>• <a href="#">Seismic Reflection App</a></li> </ul>	<ul style="list-style-type: none"> <li>• <a href="#">Seismic Lecture 1</a></li> </ul>		

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	27		Seismic		<ul style="list-style-type: none"> <li>• Seismic Lecture 2</li> </ul>		
	30	5	Seismic		<ul style="list-style-type: none"> <li>• Seismic Lecture 3</li> </ul>	<ul style="list-style-type: none"> <li>• Lab 4 Seismic Part 1</li> </ul>	<ul style="list-style-type: none"> <li>• Devin</li> <li>• Lucas</li> </ul>
Oct	2		Seismic		<ul style="list-style-type: none"> <li>• Seismic Lecture 4</li> </ul>		
	4		Seismic		<ul style="list-style-type: none"> <li>• Seismic Lecture 5</li> </ul>		
	7	6	Seismic	<ul style="list-style-type: none"> <li>• TBL 3 Case History</li> <li>• Seis Practice Questions</li> </ul>	<ul style="list-style-type: none"> <li>• TBL 3 Assignment</li> </ul>	<ul style="list-style-type: none"> <li>• Lab 5 Seismic Part 2</li> </ul>	<ul style="list-style-type: none"> <li>• Devin</li> <li>• Lucas</li> </ul>
	9		GPR	<ul style="list-style-type: none"> <li>• GPG GPR</li> <li>• GPR Attenuation App</li> <li>• GPR Widget</li> </ul>	<ul style="list-style-type: none"> <li>• GPR Lecture 1</li> </ul>		

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	11		GPR		<ul style="list-style-type: none"> <li>• GPR Lecture 2</li> </ul>		
	14	7	Thanksgiving No class		NO LECTURE	<ul style="list-style-type: none"> <li>• Thanksgiving Week: NO LAB!</li> </ul>	
	16		GPR		<ul style="list-style-type: none"> <li>• GPR Lecture 3</li> </ul>		
	18		GPR	<ul style="list-style-type: none"> <li>• TBL 4 Case History</li> <li>• GPR Practice Questions</li> </ul>	<ul style="list-style-type: none"> <li>• TBL 4 Assignment</li> </ul>		
	21	8	GPR	<ul style="list-style-type: none"> <li>• Practice Midterm</li> <li>• Practice Midterm Ans</li> <li>• Midterm Eq Sheet</li> </ul>	<ul style="list-style-type: none"> <li>• Review Lecture</li> </ul>	<ul style="list-style-type: none"> <li>• Lab 6 GPR</li> </ul>	<ul style="list-style-type: none"> <li>• Devin</li> <li>• Lucas</li> </ul>
	23		DC		<ul style="list-style-type: none"> <li>• GPR Quiz</li> <li>• DC Lecture 1</li> </ul>		

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	25		Midterm	<ul style="list-style-type: none"> <li>• GPG DC</li> <li>• DC App</li> </ul>	<ul style="list-style-type: none"> <li>• <b>Midterm</b></li> </ul>		
	28	9	DC		<ul style="list-style-type: none"> <li>• DC Lec-ture 2</li> </ul>	<ul style="list-style-type: none"> <li>• <i>Lab 7 DC</i></li> </ul>	<ul style="list-style-type: none"> <li>• Devin</li> <li>• Lucas</li> </ul>
	30		DC		<ul style="list-style-type: none"> <li>• DC Lec-ture 3</li> </ul>		
Nov	1		DC	<ul style="list-style-type: none"> <li>• DCIP Prac-tice Ques-tions</li> </ul>	<ul style="list-style-type: none"> <li>• <b>DC Quiz</b></li> <li>• Midterm re-view</li> </ul>		
	4	10	EM	<ul style="list-style-type: none"> <li>• GPG EM</li> <li>• EM Loops App</li> <li>• EM Pipe App</li> <li>• EM 31 App</li> </ul>	<ul style="list-style-type: none"> <li>• EM Lec-ture 1</li> </ul>	<ul style="list-style-type: none"> <li>• <i>Lab 8 EM 1</i></li> </ul>	<ul style="list-style-type: none"> <li>• Devin</li> <li>• Lucas</li> </ul>
	6		EM		<ul style="list-style-type: none"> <li>• EM Lec-ture 2</li> </ul>		
	8		EM		<ul style="list-style-type: none"> <li>• EM Lec-ture 3</li> </ul>		

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	11	11	Remembrance Day. No class		<i>NO LEC- TURE</i>	• No Labs this week!	
	13		EM		• EM Lec- ture 4		
	15		EM	• EM Prac- tice Ques- tions	• <i>TBL</i> 5 As- sign- ment • em31 data		
	18	12	IP	• GPG IP	• IP Lec- ture 1	• <i>Lab</i> 9 <i>EM</i> 2	• Devin • Lucas
	20		IP	• <i>TBL</i> 6 Case His- tory	• <b>EM Quiz</b> • <i>TBL</i> 6 As- sign- ment		
	22		Review		• Wrap Up Lec- ture		

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	25	13	Review		<ul style="list-style-type: none"><li>• Review Lecture Questions</li><li>• DC and EM sketches</li></ul>	<ul style="list-style-type: none"><li>• No Lab!</li></ul>	
	27		Review		<ul style="list-style-type: none"><li>• Review Lecture Questions</li><li>• DC and EM sketches</li></ul>		
	29				<ul style="list-style-type: none"><li>• Final wrap-up &amp; assessment</li><li>• Practice Final</li></ul>		

### 3.1.1 Check back soon!

The page you are looking for has not been posted yet

## 3.2 Assignments

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**Note:** All the material is available through the course schedule.

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**Note:** Please print out the labs before attending the lab period.

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**Note:** Apps for the assignment are available by clicking below binder badge!

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## 3.3 Resources

### 3.3.1 Course Resources

- GPG: Geophysics for Practicing Geoscientists
- Instructions Using UBC-JupyterHub, Syzygy, for the Course Apps
- Binder for the Course Apps

### 3.3.2 External Resources

- Physics Toolbox Magnetometer App

### 3.3.3 Jupyter Notebooks in Lab

To open and run Jupyter notebooks for lab exercises, please do the following

1. Login to the lab computer with the name and password provided
2. On the desktop, open the *Anaconda Prompt*. This command line will automatically open in the Z: folder
3. Use 'cd your-folder' to navigate to your working folder. For example: 'cd user14'. Each student has been given a folder that contains the core programming. The name of your folder is provided in the **Teams 2019** file.
4. Within the command line, type the command 'jupyter notebook' and press enter. This will start Jupyter notebooks in a tab within your web browser. This may take a while.
5. Navigate to the correct notebook and select. This should open another tab that starts the app. Within each app there are instructions for how to run the code.

## 3.4 Lecture Video Lists

- Introduction (09/05/2018): <https://youtu.be/7kFPNooixyw>
- Physical Properties (09/07/2018): <https://youtu.be/T6gE93CSYu0>
- Framework (09/10/2018): [https://youtu.be/j1Z\\_yHgdGxI](https://youtu.be/j1Z_yHgdGxI)
- Magnetic Lecture1 (09/14/2018): <https://youtu.be/5W0ovJyRVjE>
- Magnetic Lecture2 (09/17/2018): <https://youtu.be/ZTd9XUaIWt4>
- Magnetic Lecture3 (09/19/2018): <https://youtu.be/Rjc9FIa98aM>
- Magnetic Lecture4 (09/21/2018): <https://youtu.be/XZ-C5kPgr5I>
- Seismic Lecture1 (09/26/2018): <https://youtu.be/Z3Xh66Ws7wo>
- Seismic Lecture2 (09/28/2018): <https://youtu.be/TsJg8N1ThHk>

- Seismic Lecture3 (10/01/2018): <https://youtu.be/ladQk39A7GU>
- Seismic Lecture4 (10/03/2018): <https://youtu.be/zdoaBvRDVhk>
- Seismic Lecture5 (10/05/2018): <https://youtu.be/IInmwOgU-d0>
- Seismic Review (10/10/2018): <https://youtu.be/oFg7wepygX8>
- GPR Lecture1 (10/15/2018): <https://youtu.be/guR3-VjJV4A>
- GPR Lecture2 (10/17/2018): [https://youtu.be/Ges1fcx\\_UsI](https://youtu.be/Ges1fcx_UsI)
- GPR Lecture3 (10/19/2018): <https://youtu.be/pQJcfvexBg4>
- DC Lecture1 (10/26/2018): <https://youtu.be/R4x3W-N0CfY>
- DC Lecture2 (10/29/2018): <https://youtu.be/RMHtrPGRJNc>
- EM Lecture1 (11/02/2018): [https://youtu.be/vc6Uoj\\_b45s](https://youtu.be/vc6Uoj_b45s)
- EM Lecture2 (11/05/2018): <https://youtu.be/ORoriWVXYT8>
- EM Lecture3 (11/07/2018): <https://youtu.be/Rv6dCAMz6a0>
- EM Lecture4 (11/09/2018): <https://youtu.be/7OHNua1P2IU>
- IP Lecture1 (11/16/2018): Not available
- DC/IP review (11/19/2018): <https://youtu.be/ZiMezjsz-Jw>