



# McGill

**April 2018  
Final Examination**

**Version #1**

**Terrestrial Planets**

**EPSC 180**

**April 17, 2018 9:00AM**

EXAMINER: **Olivia Jensen**

ASSOC.  
EXAMINER:

**Jeanne Paquette**

<b>STUDENT NAME:</b>		<b>McGILL ID:</b>												
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**INSTRUCTIONS:**

<b>EXAM:</b>	CLOSED BOOK <input checked="" type="checkbox"/> OPEN BOOK <input type="checkbox"/>
	SINGLE-SIDED <input type="checkbox"/> PRINTED ON BOTH SIDES OF THE PAGE <input checked="" type="checkbox"/>
	MULTIPLE CHOICE <input checked="" type="checkbox"/> NOTE: The Examination Security Monitor Program detects pairs of students with unusually similar answer patterns on multiple-choice exams. Data generated by this program can be used as admissible evidence, either to initiate or corroborate an investigation or a charge of cheating under Section 16 of the Code of Student Conduct and Disciplinary Procedures.
	ANSWER IN BOOKLET <input type="checkbox"/> EXTRA BOOKLETS PERMITTED: YES <input type="checkbox"/> NO <input checked="" type="checkbox"/>
	ANSWER ON EXAM <input checked="" type="checkbox"/> Parts 2 and 3
	SHOULD THE EXAM BE:      RETURNED <input checked="" type="checkbox"/> KEPT BY STUDENT <input type="checkbox"/>
<b>CRIB SHEETS:</b>	NOT PERMITTED <input checked="" type="checkbox"/> PERMITTED <input type="checkbox"/>
<b>DICTIONARIES:</b>	TRANSLATION ONLY <input checked="" type="checkbox"/> REGULAR <input type="checkbox"/> NONE <input type="checkbox"/>
<b>CALCULATORS:</b>	NOT PERMITTED <input type="checkbox"/> PERMITTED (Without text capability) <input checked="" type="checkbox"/>
<b>ANY SPECIAL INSTRUCTIONS:</b> e.g. molecular models	Detailed instructions are found on page 2, following

## Detailed instructions

***Instructions:*** The examination comprises *three* Parts and 20 pages including this instruction page and the cover page.

***Part I:*** The 60 multiple-choice and true-false questions of Part I of this exam must be answered on the computer coding sheet in rows 1 to 60. Make sure that your student ID# is correctly entered into the bubbles on the upper left corner of your sheet. There are 2 versions of this examination. Make sure that the version number appropriate to this exam is correctly entered in the column designated “VERSION” on your computer answer sheet. This may have been done for you.

***Part II:*** The 13 short-answer questions must be answered within the lined boxes provided. Answer all question. Be sure to place your name on the front page of this exam and at the top of the pages of Parts II and III (i.e. pages 13 to 20) so that we can identify *your* work.

***Part III:*** The opinion question is worth 1 marks (1% of your final grade); do offer your opinion to the question asked... whatever your opinion, it is 1 free mark if answered. You might use this question to relax yourself before leaving the exam.

*No explanation of any question asked on this exam can be given during the exam because of the very large number of students taking the exam. If you have reason to question the clarity of any question asked, note your concern briefly in the margin and note the question number at the bottom of this cover page; we may consider your objection during grading of the question.*

The value contribution towards the final grade for each question in this examination is noted in square brackets after the question header. This examination counts for 70% toward the final course grade; the exam is graded to 100 marks; it will be scaled by 70/100.

You are not permitted to use calculators that have text-memory capabilities or translation dictionaries that have not been approved by an invigilator.

Please ensure that your name and student registration number are inscribed properly on your computer grading sheet, on the front page of this exam and (at least) at the top of the pages of Parts II and III.

*The Examination Security Monitor Program detects pairs of students with unusually similar answer patterns on multiple-choice exams. Data generated by this program can be used as admissible evidence, either to initiate or corroborate an investigation or a charge of cheating under Section 16 of the Code of Student Conduct and Disciplinary Procedures. In accord with McGill University’s Charter of Students’ Rights, students in this course have the right to submit in English or in French any written work that is to be graded.*

**Part I** This section comprises 50 multiple-choice and 10 true-false questions. Each question is worth 1 mark. Indicate your answer by filling in the appropriate “O” open circle on the computer grading (Scantron) sheet. You should use pencil so that you can erase your reconsidered answers. Make sure that you have properly filled in your *student ID#* and the *version number* of this exam on the grading sheet. [60 marks]

***This is Version 1***

1. The atmospheric pressure on the surface of Venus is (complete the sentence)
  - A) nearly the same as the atmospheric pressure at sea level on Earth.
  - B) about 0.01 times (i.e. 1% of) the atmospheric pressure at sea level on Earth.
  - C) yet unmeasured as we have not yet descended with probes onto the surface of Venus.
  - D) 740 K because Venus surface is maintained at such high temperature by a strong greenhouse effect.
  - E) about 90 to 100 times the atmospheric pressure at sea level on Earth; that is, equivalent to the pressure at 1.3km of depth in the oceans.



**Part III**

*An opportunity to express your opinion...* Planetary exploration is very expensive. Still, the primal human drive to learn about our environment in the universe maintains us in our quest for such cultural knowledge. In a *very short* essay or personal opinion statement, restricted in space to the box following, argue either for or against the continuation of this expensive science in view of other pressing problems which face humanity on Earth. I am interested in the opinions of the young who shall soon be taking responsibility for our future. [ 1 mark ]

*On grading:* As this question is essentially a personal opinion statement, those students who respond with reasoned consideration to the question will be awarded the 1 full mark.
