Online testing may be considered by instructors for various reasons. While in-person testing poses challenges pertaining to academic integrity, so too does testing via an online environment. This document highlights some best practices to consider when constructing and administering an online test to students. It is important to recognize that no online testing environment is completely secure, but these tips may help mitigate any cheating-related activities.

1. **At the start of each course:**
   - Consider incorporating an academic integrity quiz. This should be an activity that introduces/reminds students of the regulations and policies around academic integrity at McMaster University ([https://secretariat.mcmaster.ca/app/uploads/Academic-Integrity-Policy-1-1.pdf](https://secretariat.mcmaster.ca/app/uploads/Academic-Integrity-Policy-1-1.pdf) with specific emphasis on section 18), and then requires they complete a quiz to demonstrate that they are aware of this policy
   - This would only be implemented at the start of term

2. **Prior to the test:**
   - Communicate with students in advance. This includes sharing information pertaining to not only test format, but the importance of academic integrity during the test. It is especially important to highlight that any form of breach of academic integrity during an online test can lead to an academic offence that has the potential of being placed on a student record
   - Remind students to read the McMaster University Academic Integrity Policy in advance of the test.

It is also important to remind students how best to prepare their computer for an online test. Please feel free to include the following on your Avenue test instructions:

**Good computer practices are important for those taking online tests. This includes the following:**

- Restart your computer 1-2 hours BEFORE your online test
- Turn off all unnecessary programs; especially Netflix, YouTube, game consoles such as Xbox, PS4 or anything that may be downloading or streaming
- If your house is shared, ask others to refrain from doing these activities while you are writing your online test
- If you can, connect to the internet via a wired connection
- Move closer to the WiFi hub in your house when you write your test
3. **Online test design**
   - Create a large question bank such that each student can be assigned a random sample of these questions. This will make answer sharing more difficult between students.
   - Scramble answer options for multiple choice questions. To do so, you will need to be sure that you NEVER include the option, “All of the above”.
   - Consider including short answer and long-form questions. These questions typically require more higher order thinking and may be more difficult to cheat on.
   - Test design is key. Consider asking more application-based questions that require additional thinking, rather than questions that rely on student knowledge of basic course content. All things considered; we need to assume that an online test is an open-book test. As a result, try to create questions that challenge students beyond rote memorization. These questions can be more heavily weighted.
   - Ensure a reasonable amount of time is provided to students to complete the online test, but keep the amount of time for each question as short as reasonable (eg. 1 minute per recall multiple choice question; 2 minutes per application-based multiple choice question). This should also prevent answer sharing and limit the ability of students to look up the answer in another browser window.
   - Ensure that only one question appears on the screen at any given time on the test. This is to ensure that students are not able to capture the screen with all test questions at one time.
   - Limit the amount of time that the online test is available. Remember to give SAS students extra time by adding users to special access. Alternatively, you can consider universal design learning and just give everyone in the class, the same amount of extra time per question.
   - When creating each quiz question, be sure to select Disable right click from the Optional Advanced Properties area for each question in Avenue to Learn. This will disable the right click (or control-click on a Mac), and will prohibit students from printing questions on the screen using a keyboard shortcut. There is also an option to prevent students from accessing email or instant messages or alerts in the same submenu. Consider activating this when creating the online test.

4. **After the test**
   - You will be able to track student activity following the online test by selecting the Attempt Logs item from the test dropdown menu. In this menu, you will be able to see the exact date and time when the student entered, and then completed the test. You will also be able to track student activity by searching a student from the class list, and selecting the Progress Summary content area for the online test from the drop-down list associated with their student name. This data can be used to compare across students in the class.

**Note:**
Avenue to Learn support is available from Monday to Friday, 8:30 AM to 4:30 PM. For the quickest response, please go to their support intake form, located at [http://avenue.mcmaster.ca/support/](http://avenue.mcmaster.ca/support/) You can also reach them at (905) 525-9140 ext. 23757.