

Dalhousie Medical Students' Society Exam Procedures Backgrounder

Disclaimer: The contents herein are a summary of policies and procedures that are set out in various official documents of the Dalhousie Faculty of Medicine and Dalhousie University. In all cases, what is written in those official documents has precedence over what is contained here. In addition, students are advised that regulations, policies, and procedures, once approved by the appropriate authority, may change over time, and that students should access the most current approved statement of regulations, policies or procedures before deciding on a course of action.

For further information, please consult the Dalhousie Faculty of Medicine Assessment Procedural Document:

<https://cdn.dal.ca/content/dam/dalhousie/pdf/faculty/medicine/departments/core-units/undergrad/2017-2018%20Assessment%20Procedural%20Document%20Final%20Approved%20October%202017%20ali%20edits.pdf>

Process for Mid-Unit or End-of-Unit Exams

- 1) Questions for the Mid-Unit or End-of-Unit exams are either selected from an exam bank developed over recent years by Faculty or generated by Unit teachers based on the curriculum learning objectives for the Unit. Questions for each exam are selected by Component Heads and/or Unit Heads.
- 2) Students write the Exam.
- 3) Exam is scored. Selected response questions (multiple choice and true/false questions) entered on the examination answer form are scanned and open response items (fill-in the blank and short and long answer items) are graded by Faculty members.¹ Beginning with the Class of 2020, examinations are delivered electronically using ExamSoft. Students will take all of their summative written examinations in a proctored setting using their own laptop computer. The data is then assembled, verified and analysed. The final report is prepared by the UGME assessment specialist relating to the quality of the examination as a whole and the performance of each question. These reports are then provided to the Exam Review Committee.
- 4) The Exam Review Committee is composed of the Unit Head, the Component Heads, UGME coordinator, and the UGME assessment specialist. The Committee meets approximately one week following the administration of the examination to evaluate the exam, including students' experience of writing the exam (time used, comments made), overall performance of the examination as a test of student learning in the Unit, and performance of individual questions. If justified, the Committee removes questions that are deemed to be 'unfair' and/or negatively impact the reliability and validity of the

¹ Typically a Component head or Lecturer (if there are specific questions to their lecture) will mark the question. There is a scoring guide created for each question before the exam relating to objectives and content delivered. Since there is a scoring guide, faculty from each site (i.e., DMNS & DMNB) may mark the same question consistently, objectively and fairly

examination (please see next section for explanation). If any questions are removed, the examination data files are updated accordingly, and then student results generated. The Unit Head then prepares a report for the Progress Committee pertaining to the performance of the examination and the performance of students.

- 5) Progress Committee (see section below), a standing committee of Faculty Council, meets to review the Exam Review Committee report and the recommendations made therein, specifically the recommendations to accept the examination as a valid assessment of student learning, and the ensuing student results on the examination.
- 6) Currently, the process from writing the exam to release of grades is typically two weeks (10 business days). The Progress committee aims to meet on the Friday two weeks after the exam, and marks are released following this meeting.
- 7) Faculty Council annually approves students for progress to the next academic year based on recommendations made by the Progress Committee.

For further information, please consult the most recent Promotion, Assessment & Appeal Regulations: <https://medicine.dal.ca/departments/core-units/undergraduate/current-students/policies-regulations.html>

Exam Blueprinting

- 1) For the Classes of 2020-2023, there is exam blueprinting for all pre-clerkship exams.
- 2) Exam blueprinting allows the exam creators (i.e. component and unit heads) to specify the objectives that are assessed through the examination and the proportion of the final point value that is assigned to each objective.
 - a. This ensures that examination questions are aligned with the objectives in the syllabus, and that the examination as a whole is appropriately weighted in relation to the syllabus.
- 3) In order to improve the precision of exam scores (that is, reduce measurement error) the examination blueprinting process also sets a common difficulty target for all examinations of 0.75.
 - a. This means that the average difficulty of the questions that make up the examination will be 0.75, that being the proportion of exam takers who correctly answer the question.

Fairness of a Question

- 1) Following an exam, each question is scored and evaluated in terms of difficulty and overall fairness. There are certain cases when a question may be considered to be removed from an exam:
 - a. Difficulty is extreme. If the overall score on any one question by all students is <25% and there are four [4] possible answers for the question [i.e., a multiple choice question with options a), b), c) and d)], the question is flagged for difficulty. The same would apply for overall scores of <20% for questions with five [5] possible options.

- b. Point-biserial correlation measure $<+0.1$. Each question is assessed based on how students perform on a single question versus how students perform on the exam as a whole. The scale runs from -1.0 to +1.0. For example:
 - i. If students score high on the exam overall, but get the question wrong, then the point-biserial correlation for that question will be negative.
 - ii. If students score low on the exam overall, but get the question correct, then the point-biserial for that question will be also be negative.
 - iii. If students who score high on the exam overall, get the question correct and students score low on the exam overall, get the question wrong, then the point-biserial will be positive. A question that discriminates well will have a point-biserial $>+0.20$.
 - c. Domain point-biserial correlation measure is $<+0.1$. This is the same as b) above, but looks at each Component of an exam separately (i.e., evaluates student performance on the endocrinology Component of the Metabolism I exam overall and compares it to student performance on individual endocrinology questions).
- 2) If a question does not meet the standards described above, then these questions are fed back to Unit and Component head at the exam review and then these faculty members evaluate whether the question was fair and reasonable (i.e., connected to the objectives of the curriculum, worded appropriately, etc.)
 - 3) If the Unit or Component heads deem the question to be unfair, then it is removed from the exam and the students' scores on the exam altered to reflect the removal of this question.

Exam Marks and Follow-Up

- 1) Results are provided to students in various ways – as the percent correct for the exam as a whole as well as for each of the major Components of the exam (where the exam has Components). In addition, the student can access the raw scores for the exam as a whole as well as for each Component, where the exam has Components. The raw score is the number of points (typically one [1] point for each multiple choice item and between half [0.5] and three [3] points for each open response item) the student has attained on the examination on the whole and for each Component, where they exist. Percent correct scores are calculated by dividing the raw score attained by the possible maximum score. Please note that the overall examination percent correct score cannot be calculated by averaging the percent correct scores for the Components because the Components are not equally weighted in the examination.
- 2) Achieving a standardized score of 60 or above (MCQ exams Class of 2020, bellringer exams² Classes of 2021 onwards), or standardized score of 65 or above (MCQ exams Classes of 2021 onwards) on an exam constitutes a pass.
 - a. Achieving a standardized score below 60 (MCQ exams Class of 2020, bellringer exams Classes of 2021 onwards), or standardized score below 65 (MCQ exams Classes of 2021 onwards) on an exam constitutes a failure.

² Until the laboratory bellringer exams have undergone a standard-setting exercise like the written exams the pass mark will remain a 60, rather than a 65.

- i. A notice to the student in 'red font' will appear within the box for the examination below the overall percent correct score under the students' 'Grades' tab on DalMedix.
 - 1. The notice will state: "Students who fail an end-of-Unit assessment are required to meet with the Unit Head and the Associate Dean, UGME to review the exam and discuss remediation and the supplemental assessment. Please contact Dr. <Unit Head> by <date> to schedule a meeting. Please also contact <admin. support to Associate Dean> by <date> to schedule a meeting with <Associate Dean>."
- b. Achieving a standardized score below 60 (MCQ exams Class of 2020, bellringer exams Classes of 2021 onwards), or standardized score below 65 (MCQ exams Classes of 2021 onwards) on an exam will require the student to:
 - i. Meet with various faculty and administration
 - 1. Site-specific Associate Dean, UGME.
 - 2. Unit Head.
 - 3. The Component Head for each Component where the student received a failing grade.
 - ii. Re-write the exam in July (if in Med1/2) or in early October (if in Med3³). This second exam is referred to as the Supplemental exam. Until this exam is re-written, the student's transcript will have an 'IP' or 'In Progress' next to the Unit where they received a standardized score below 60 (MCQ exams Class of 2020, bellringer exams Classes of 2021 onwards), or standardized score below 65 (MCQ exams Classes of 2021 onwards)
 - iii. Students who achieve a standardized score of 60 or above (MCQ exams Class of 2020, bellringer exams Classes of 2021 onwards), or standardized score of 65 or above (MCQ exams Classes of 2021 onwards) on the Supplemental exam will have the 'IP' removed from their transcript and replaced with a 'P' or pass.
 - 1. **'IP's will never appear on a Dean's Letter if a student fails an End-of-Unit examination and subsequently passes the Supplemental exam. There will be no mention of the initial result in their Dean's Letter. In this case, the Dean's Letter will indicate a P for this Unit.**
- c. The failure of multiple End-of-Unit exams within in the same curriculum year is a complex process, and beyond the scope of this 'backgrounder' document. For specific information, please consult the most recent Promotion, Assessment & Appeals Regulations document: <https://medicine.dal.ca/departments/core-units/undergraduate/current-students/policies-regulations.html>

³ There are seven (7) Med3 exams. Internal Medicine, Surgery, Emergency Medicine, Family Medicine, Psychiatry, Obstetrics & Gynecology, and Paediatrics. Though certain exams are written on the same day (ie., Surgery and Emergency Medicine), they do not get combined like they do in Med1 and Med2. There are no Components on exams as in Med1 and Med2.

- 3) Achieving a percent correct score below 50 on a Component of an exam (as identified on the exam blueprint) constitutes an Area of Weakness in that Component.
 - a. A notice to the student in 'red font' will appear within the box for the examination below the overall percent correct score under the students' 'Grades' tab on DalMedix.
 - i. The notice will state that "your <name of examination> exam grade has been identified as a marginal pass based on your failure of the <named> Component. As such, you are required to meet with the Component Head for <Component>, Dr. <name of Component Head>. Please contact <his/her admin. support> to set up this meeting by <specific date>.
 - ii. This is not punitive and involves the Component Head going through what the student could have done more effectively in terms of studying or content comprehension in that Component.

Unit percent grades are reported as whole numbers only, and all decimal numbers are rounded to the next highest whole number. Therefore, at the level of the Unit grade, a percent correct score of 59.01% will be rounded to 60% and a percent correct score of 64.01% will be rounded to 65%. This rounding rule at the Unit level will impact students who might otherwise be determined to have failed the unit.

Standardized Scores

- 1) Reporting of marks using percent correct fails to accurately represent achievement when the exams differ in difficulty and/or dispersion.
- 2) To aid in the ease and accuracy of interpretation, the Classes of 2020-2023 receive scores derived from their standard score for each of their examinations (raw score transformed to z-score and then to a scale with a mean of 80 and a standard deviation of 8).
- 3) Students receive a report for each unit that helps them see how they compare to their cohort and how their performance on one unit compares with their performance on other units in pre-clerkship.

Progress Committee

***This is not the Terms of Reference for the Progress Committee. Please see section 11 of the Governance of Faculty Council Terms of Reference (<http://tinyurl.com/h8n6msd>).*

Purpose:

The purpose of the Progress Committee is to oversee the review of the academic performance of medical students, and their fitness for the study and practice of medicine as set out in the Faculty Promotion/Assessment Regulations. This committee is not meant to be punitive, but to identify students who may be struggling academically and professionally so that these students may be referred to the appropriate channels for help.

All Progress Committee meetings are confidential.

Roles:

- 1) To approve exam, OSCE, skilled clinician and elective results.

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- 2) To meet with students who are struggling academically (i.e., repeatedly failing Components of exams or repeatedly failing exams) or professionally (i.e., a pattern of concern regarding professionalism noted by preceptors when the student interacts with fellow students, patients or other members of the health care team OR when the student has multiple unexcused absences) and try to understand why the student is struggling.
 - a. The Progress Committee may then have students abide by a learning contract to ensure the student is accessing appropriate means of remediation.

Membership:

- 1) Elected Voting Members:
 - a. Six members of Faculty who hold the rank of Associate Professor or Professor, no fewer than two each from a basic science and a clinical department, and one member of Faculty whose primary geographic appointment is in New Brunswick and who participates in the Dalhousie Medical Education Program in New Brunswick.
 - i. For the year 2019-2020 these include:
 1. Dr. Joseph Sadek
 2. Dr. Valerie Chappe
 3. Dr. Wendy Stewart (Chair)
 4. Dr. Brock Vair
 5. Dr. Mary-Lynn Watson
 6. Dr. Catherine Too
 - b. Ex-Officio Voting Members:
 - i. Associate Deans, Undergraduate Medical Education.
 1. Dr. Jennifer Hall
 2. Dr. Evelyn Sutton
 - c. Ex-Officio Non-Voting Members
 - i. Assistant Dean, Student Affairs or designate
 1. Dr. Joanne MacDonald
 2. Dr. Lisa Sutherland
 - ii. Administrators who are engaged in the administration of student promotion and assessment, as appointed by the Associate Dean, Undergraduate Medical Education.
 1. Ms. Kelly Barnes
 - d. Elected Non-Voting Members:
 - i. Two student members nominated by the Dalhousie Medical Students' Society and approved by the Associate Dean Undergraduate Medical Education. These student members may change for each meeting. The following are students that are able to attend a Progress Meeting (2019-2020):
 1. DMSS President: Freddy Lee
 2. DMSS VP Med Ed: Michael O'Leary
 3. Med1 President:

4. Med2 President:
5. Med3 Co-Presidents:
6. Med4 Co-Presidents: