Leicester Medical School

MBChB

Code of Practice for Assessment

2017-18
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1. Introduction

This document prescribes the conduct of the assessment of students during the MB ChB programme at Leicester Medical School, building on the general guidance of the University of Leicester regulations.

Assessment processes in the Medical School are continually reviewed in the light of experience and guidance from the General Medical Council and other bodies. The Code of Practice for Assessment will therefore be reviewed and updated on an annual basis. The annual revised version will apply to all students on the course at the time they are published, which will be at least one month before the first assessment of the Academic Year. Any changes will be explained to the students at least one month prior to an assessment so that ample time is provided for students to be aware of the assessment strategy that applies to them.

The regulations for progression from one year to the next and for graduation are described separately.
2. Assessment Strategy

Overview of Assessment

The aim of the University of Leicester Medical School is to provide an excellent standard of education and assessment which mirror the specifications of the GMC's document, Promoting Excellence (2015)


R5.5 Medical schools must assess medical students against the learning outcomes required for graduates at appropriate points. Medical schools must be sure that medical students can meet all the outcomes before graduation. Medical schools must not grant dispensation to students from meeting the standards of competence required for graduates.

R5.6 Medical schools must set fair, reliable and valid assessments that allow them to decide whether medical students have achieved the learning outcomes required for graduates.

R5.7 Assessments must be mapped to the curriculum and appropriately sequenced to match progression through the education and training pathway.

R5.8 Assessments must be carried out by someone with appropriate expertise in the area being assessed, and who has been appropriately selected, supported and appraised. They are responsible for honestly and effectively assessing the medical student’s performance and being able to justify their decision.

The primary purpose of assessment of the **core curriculum** is to ensure that all students develop cumulative and integrated knowledge and skills so that they are competent to practise and have an appropriate foundation for lifelong learning. Furthermore, the Medical School is required to demonstrate that students can practise as safe future doctors. It is for this reason that all students must demonstrate that they have achieved the minimum safe standard for their stage of the course. Assessments are therefore designed to identify those students who are not ready to progress from one year of the course to the next as well as those students who are progressing exceptionally well.

The key feature of assessment is that, in terms of content, assessments are cumulative. The style of examination is also intended to test the application of this progressive competence to clinical problems, to encourage breadth of learning, and to discourage as strongly as possible the adoption of selective, focussed learning strategies.

The MB ChB programme is not a modular programme. The programme is taught in an integrated manner and all summative assessments are integrated.

The assessment package (including summative and formative assessments) is intended to ensure students meet the GMC outcomes described within:

- The doctor as a scholar and a scientist
- The doctor as a practitioner
- The doctor as a professional

The Medical School has put in place a uniform pattern of assessments with common principles for each year of the course.

Within every year of the MB ChB programme there will be:

- **A summative assessment**
  This will normally consist of two components - a written assessment and a clinical/practical assessment; apart from Year 1 where the clinical examination is formative.
• Any student who is unsatisfactory in a summative examination will have the opportunity to take a **re-sit examination**. A student will be required to undertake a re-sit examination in those components that were failed in the first sit examination. For clarity, if the written assessment and clinical/practical assessment have been failed at the first sit then both are taken at the resit. If only the written assessment has been failed at the first sit then only the written assessment is taken in the resit and if only the clinical/practical assessment has been failed at the first sit then only the clinical/practical assessment is taken at the resit.

The following pattern of **summative** assessments will be followed:

**WRITTEN ASSESSMENTS**

The written assessment will consist of ‘short answer’ questions (SAQ), ‘single best answer’ questions (SBA) and in Year 1 only, a written Integrated Understanding Assessment (IUA). Short answer questions have been used in Leicester for many years and provide a good test of understanding and the ability to apply knowledge to solve a clinical problem. Single best answer questions are now widely used in most postgraduate and national examinations and help to ensure the assessment covers an appropriate breadth of knowledge. The IUA comprises questions that involve looking at models, anatomy prostatections, bones, graphs, X-rays and other images. It is designed to test students understanding and assimilation of the modules of the course that they have studied during their first year that cannot be tested in a standard written format.

**Phase 1**

*In Year 1* there will be an **End of Semester (written) Assessment** at the end of Semester 1 (ESA 1: SBAs and SAQs) and again at the end of Semester 2 (ESA 2: SBAs, SAQs and IUA). The marks from these papers will be combined to award a single mark that is used to determine if a student has reached the minimum safe standard. The benefit of this approach is that if a student’s performance is unsatisfactory in the ESA 1 examination the student can gain feedback and improve their learning strategy and performance in ESA 2. Providing their overall mark for the written paper demonstrates that they have reached the minimum safe standard, they are not required to take the re-sit examination.

*In Year 2*, there will be a written assessment at the end of Semester 3 (ESA 3) and Semester 4 (ESA), again with the marks combined to provide an overall mark at the end of the year to determine if a student has reached the minimum safe standard. The written formats used in both ESA3 and ESA4 will be a combination of both SAQs and SBAs.

**Phase 2**

*In Year 3* there will be a written assessment consisting of an SAQ paper and an SBA paper as part of the end of Year 3 Exam (Y3E)

*In Year 4* there will be a written assessment consisting of an SAQ paper and an SBA paper as part of the Year Exam (Y4E)

*In Year 5* there will be a written assessment consisting of an SAQ paper and an SBA paper as part of the Year 5 Exam (Y5E)
CLINICAL AND PRACTICAL ASSESSMENTS
Clinical assessments will be delivered as modified Objective Structured Clinical Examinations (OSCE). The skills and competencies will build progressively from Year 1 through to the final year.

Phase 1
Year 1: Formative OSCE at the end of Semester 2 providing feedback to students on their progress in achieving the outcomes of the Compassionate Holistic Diagnostic Detective (CHDD) course. This will be run under examination conditions. Attendance at this formative assessment is compulsory for all students.

Year 2: Summative OSCE at the end of Semester 4, assessing students’ achievement of the outcomes of the clinical skills taught in Years 1 and 2 and forming part of the fourth End of Semester Assessment. Summative Integrated Understanding Practical Assessment (IUPA) at the end of Semester 4, assessing students’ ability to demonstrate an integrated understanding of the topics taught in Phase 1 of the course. The OSCE and IUPA will be combined to give a single ‘Combined clinical and practical’ assessment result.

Phase 2
Year 3: OSCE forming part of the Year 3 Examination (Y3E).
Year 4: OSCE forming part of the intermediate professional examination OSCE (Old curriculum)
Year 5: OSCE forming part of the Final Professional Exam (FPE) (Old curriculum).
3. Summary Table

<table>
<thead>
<tr>
<th>Format of assessments</th>
<th>Total marks available</th>
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| **Year 1**  
**Written:**  
ESA 1 minimum 6 Short Answer Questions (SAQ) = 60 marks; minimum 30 Single Best Answer (SBA) questions = 30 marks  
ESA 2 – minimum 12 SAQ = 120 marks; minimum 60 SBA = 60 marks;  
Integrated Understanding Assessment (IUA): minimum 50 marks  
Combined to give a single overall satisfactory/unsatisfactory grade for the Year 1 written paper  |  
ESA 1 (SBA+SAQ) = 90 marks  
ESA 2 (SBA + SAQ + Integrated understanding assessment) = 230 marks  
Total marks available = minimum 320 marks  |
| **Year 1 re-sit Examination**  
*Written:* minimum 15 SAQ = 150 marks; minimum 120 SBA = 120 marks; Integrated Understanding Assessment: minimum 50 marks  |  
Resit examination:  
Total marks available = minimum 320 marks  |
| **Year 2**  
**Written:**  
ESA 3 - minimum 12 SAQ (120 marks); minimum 60 SBA (60 marks)  
ESA 4 - minimum 15 SAQ (150 marks); minimum 90 SBA (90 marks);  
Combined to give a single overall satisfactory/unsatisfactory grade for the Year 2 written paper  |  
ESA 3 (SBA + SAQ) = 180 marks  
ESA 4 (SBA + SAQ) = 240 marks  
Total marks available = minimum 420 marks  |
| **Combined clinical and integrated understanding practical assessment:**  
OSCE: summative assessment comprising a minimum of 6-12 stations of 5-12 minutes each. The examination will generate a minimum of 12 separate items to be awarded a mark and grade.  
Integrated Understanding Practical Assessment (IUPA): summative assessment comprising a minimum of 5 stations of 8 minutes to generate a minimum of 5 separate items to be awarded a mark or grade.  
Combined to give a single overall satisfactory/unsatisfactory grade for the Year 2 clinical exam  |  
Students are required to pass both the written paper and the OSCE  |
| **Year 2 re-sit Examination**  
*Written:* minimum 15 SAQ (150 marks); minimum 120 SBA (120 marks)  |  
Resit examination:  
Written: SBA + SAQ = 270 marks  |
| **Combined practical and clinical assessment:**  
OSCE: summative assessment comprising of a minimum of 1 hour testing time with 6-12 stations of 5-10 minutes each. The examination will generate a minimum of 10 separate items to be awarded a mark and grade.  
Integrated Understanding Practical assessment (IUPA): summative assessment comprising a minimum of 40 minutes testing time (minimum 5 stations) to generate a minimum of 5 separate items to be awarded a mark or grade.  |  
Clinical Assessment:  
OSCE: minimum 1 hour testing time with 6-12 stations of 5-10 minutes each  
IUPA: minimum 40 minutes testing time / minimum 5 stations  |
<table>
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<tr>
<th>Year</th>
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<tbody>
<tr>
<td>3</td>
<td><strong>Y3E</strong></td>
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</table>
|     | *Written:* minimum 15 SAQ; minimum 120 SBA  
      *OSCE:* Minimum of 2 hours examination time to generate a minimum of 18 grades. |   |
|     | **Re-sit Y3E** |   |
|     | *Written:* Minimum 15 SAQ; minimum 120 SBA  
      *OSCE:* Minimum of 2 hours examination time to generate a minimum of 18 grades. |   |
| 4   | **IPE** |   |
|     | **Old Curriculum:** IPE  
      *Written:* minimum 15 SAQ; minimum 120 SBA  
      *OSCE:* Minimum of 2 hours examination time. |   |
|     | **Re-sit IPE** |   |
|     | *Written:* minimum 15 SAQ; minimum 120 SBA  
      *OSCE:* Minimum of 2 hours examination time. |   |
| 5   | **FPE** |   |
|     | **Old Curriculum:** FPE  
      *Written:* minimum 15 SAQ; minimum 120 SBA  
      *OSCE:* Minimum of 2 hours, 20 minutes of examination time. |   |
|     | **Re-sit Y5E** |   |
|     | *Written:* minimum 15 SAQ; minimum 120 SBA  
      *OSCE:* Minimum of 2 hours, 20 minutes of examination time. |   |
4. Standard Setting

DEFINITION OF A STANDARD

A standard is a single assessment score that serves to define the boundary between differing qualitative student performances following an assessment. The standard for all assessments within the MB ChB programme is the attainment of the minimum safe standard in knowledge and clinical skills appropriate for the stage of the course. Throughout the MB ChB assessment programme the ‘primary’ standard will be a single unique score defining the boundary between satisfactory (pass) and unsatisfactory (fail). Students who score above or equal to this primary standard will be deemed as at least satisfactory, whilst those who score below this standard will be deemed unsatisfactory.

‘Secondary’ standards will define the secondary boundaries in student performance namely the boundaries between satisfactory and merit, and merit and distinction respectively. The secondary standards will normally be directly derived from the primary standard.

THE USE OF ABSOLUTE STANDARDS TO DETERMINE PROGRESSION

Only absolute standards will be used to classify student performances throughout the MB ChB assessment programme. Absolute standards are solely expressed in terms of the performance of students against an assessment and not on the comparative performance of the students. Hence, if the primary absolute standard is, for example, 60% then the performance of any student achieving 60% or more of the available marks will be deemed as at least satisfactory. It is not the case that the performance of a defined proportion of students will ‘always’ be deemed unsatisfactory; using an absolute standard all students have equal opportunity to gain a satisfactory outcome and the entire cohort may achieve this. This is appropriate as the MB ChB programme assessments are designed to determine whether a student has accrued the necessary knowledge, skills and attitudes, to a sufficient level, to progress in the MB ChB programme and ultimately to graduate as safe Foundation doctors.

As absolute standards are derived directly from an assessment, each standard is unique and only applicable to the assessment from which it was derived. It therefore follows that the primary standard will vary from assessment to assessment depending on, for example, the relative difficulty and importance of the items (content) within that assessment. The primary standard will therefore not be fixed (i.e. the primary standard will not always be 60%), though due to the manner in which assessments in the MB ChB assessment programme are constructed the absolute primary standard would not be expected to be below 50% or above 75% of the available marks. When a progression decision is based on the performance of students in more than one assessment AND the separate assessments are deemed to examine the same construct the primary absolute standards may be summed and compared to the total score a student achieves across those assessments in order to determine the assessment outcome and inform the progression decision. In this manner compensation is possible between assessments (e.g. End of Semester Assessments 1 and 2, and the integrated understanding assessment are all summed together to determine progression from Year 1 to Year 2).
METHODS FOR DETERMINING THE PRIMARY ABSOLUTE STANDARD

The following methods will be used to determine the primary absolute standard throughout the MB ChB assessment programme. The method applied will be determined by the type of assessment instrument employed. These methods are used to ensure that the set primary standard is **credible and fair** and that decisions regarding the standard are based on expert judgement, demonstrate due diligence and are supported by research.

STANDARD SETTING FOR WRITTEN PROGRESSION ASSESSMENTS: SINGLE BEST ANSWER (SBA) AND SHORT ANSWER QUESTION (SAQ) INSTRUMENTS

The **Angoff Method** will be used to set the primary standard for all SBA and SAQ assessments employed during the MB ChB assessment programme. The integrated understanding assessment in the first year is also a written test and therefore the standard for this test will also be set using the Angoff method. It should be noted that the integrated understanding assessment is held over two days and whilst similar material is presented in each day’s individual assessment, the two tests are not identical to ensure there is no breach of assessment security. Therefore, independent standard setting will be performed for each day of the test. Where there is a difference between scores across the two days, scaling calculations will be used to ensure equity across the whole year group. In effect the primary cut score (and hence student scores) of the more ‘difficult’ day will be scaled up to match the primary cut score (and student scores) of the ‘easier’ day.

The Angoff method will be applied to the assessment after the assessment has been constructed, edited and finalised **but before implementation** to avoid performance bias. The Angoff primary standard will be determined during a formal Standard Setting Meeting of the relevant standard setting group which will comprise a minimum of seven ‘standard setters’ to increase standard reproducibility and ameliorate assessor-teacher conflict. The standard setters will be academic and/or clinical staff, who understand the purpose of the assessment, are familiar with the assessment content and the curriculum to which it relates and are familiar with the students and the expected level of competence. Therefore the standard setting group will appropriately change from assessment to assessment dependent on the component(s) of the MB ChB programme being assessed. The standard setters will have received training in the Angoff method and review the assessment instrument in detail. Performance feedback and ongoing training will also be provided to standard setters.

The standard Angoff method will be used, however the following modifications may be applied in specific situations:

1. The assessment instrument may be reviewed by the standard setters independently of one another and Angoff proportions recorded electronically before the Standard Setting Meeting where items will then be discussed, outliers reviewed and the opportunity provided for standard setters to review their estimates. This modification will only be implemented when the standard setters are experienced and the borderline student has been discussed and defined beforehand.

2. The Angoff method may be applied to an SAQ instrument by means of determining the Angoff proportion for each of the marks available for an item.
3. Where the Angoff method is used to calculate a standard for an assessment where there are different test items for different groups within a year cohort (as occurs with the two separate days of the first year integrated understanding assessment), comparison between individual Angoff scores will be made. If necessary i.e. there is a difference in the Angoff standard set across different days, a scaling adjustment will made to ensure equity across the whole cohort.

Following the Standard Setting Meeting a primary standard will have been determined. This will be reviewed during post-examination analysis and may be altered if flaws in test items are identified. In Year 1, the primary standard applied will be the sum of the averaged Angoff proportions obtained at standard setting minus one standard error of the measurement (SEM). The SEM derived from the first sitting assessment will be applied to both the first sitting and the resit assessments in year 1. In Year 2 and all subsequent years of the course, the primary standard applied will be the sum of the averaged Angoff proportions obtained at standard setting.

The recommendation for the primary standard will be made by the Assessment Group and confirmed by the Panel and Board of Examiners, who have the power to modify the recommendation.

**STANDARD SETTING FOR OBSERVED STRUCTURED CLINICAL EXAMINATIONS (OSCEs)**

The **Borderline Group Regression (BGR) method** will be used to set the primary standard for all OSCEs in the MB ChB assessment programme. It will also be used to set the primary standard for the Integrated Understanding Practical Assessment in Year 2.

The BGR method uses a global rating of a student’s performance provided by the station examiner(s). The student will be rated at each station assessed by an examiner. The data from which the primary standard for the examination is derived is therefore collected during the examination. The student’s performance will be rated by the examiner on a five point global rating scale attracting the following scores:

1. Clear fail = 2 demerit points (2 negative points)
2. Borderline = 1 demerit point (1 negative points)
3. Clear pass = score neutral
4. Good = 1 merit point (1 positive point)
5. Excellent = 2 merit points (2 positive points)

The primary standard is therefore based both on the cut score determined by BGR and on the expert judgements of the examiners. All individuals who make these performance judgements will therefore receive on-going training in order to ensure reproducibility of standards and maximise examiner homogeneity.

Each student will have their merit and demerit points summed separately (i.e. a merit score and a demerit score).

Once the standard setting using the BGR method has been completed, a decision on whether a student’s performance is satisfactory or unsatisfactory will be based on the following two criteria:
- A student must achieve the overall pass mark for the examination (this ensures a sufficiently high standard)
- A student must not exceed a maximum number of demerit marks (this ensures breadth of competence and limits compensation). The exact number of demerit marks will be agreed by the Board of Examiners with the advice of the Assessment Group.

A student must meet both criteria to be graded as Satisfactory for the examination.

**METHOD FOR DETERMINING SECONDARY STANDARDS**

The secondary standards will be used for determining the award of merit and distinction. These standards are derived from the primary standard and will therefore, as for the primary standard, vary between assessments. Normally, for written examinations, the secondary standards will be the primary standard plus a factor determined by the standard deviation of the cohort raw scores for the assessment. The secondary standards will therefore be derived following post-examination analysis and are dependent upon the content of the assessment (primarily difficulty). Z-scores will also be calculated and used to finalise the award of merit and distinction.

For the clinical examinations, where borderline group regression is used, secondary cut scores will be determined as follows: A student’s individual merit score will be multiplied by a factor of 10 and added to the BGR cut score to give a total ‘decile’ score that will used to rank students and determine the secondary thresholds for merit and distinction.

The recommendation for merit and distinction will be made by the Assessment Group and confirmed by the Panel and Board of Examiners, who have the power to modify the recommendation.

**POST EXAMINATION ANALYSIS**

**Definition and purpose**

Post-examination analysis is a collection of processes involved in analysing and evaluating the results of objective assessments. This analysis aims to minimise errors influencing the observed scores of an assessment, determine and ensure assessment accuracy, validity and reliability, ensure the credibility of the primary standard, provide quality evidence and deliver a means to evaluate and improve assessment items for use in future assessment instruments. The data from this analysis also feed into curriculum development and outcome specification. The analysis performed will vary between the types of assessment instruments.

These analyses will be performed before, and considered at, the relevant Assessment Group meeting in order that the validity and reliability of the assessment(s) are determined, monitored and discussed and any problem items and outlying scores considered. The primary standard will then be applied to the total scores, in the context of the standard error of measurement (SEM). The secondary standards will be determined and applied. All of these data will form part of quality assurance and inform recommendations of assessment outcome to be considered by the relevant Panel and ultimately the Board of Examiners.
Post examination analysis of SBA instruments

An electronic platform is used to deliver and mark single-best answer questions in academic years 1 and 2. In years 3-5 students will sit SBA examinations using a paper sheet and examinations will be marked using an optical mark reader.

After optical or electronic marking of the SBA instrument the following will be performed:

- A primary distractor analysis in order to validate the answer key +/- optical mark recognition scoring
- The frequency distribution of total scores will be inspected and mean, mode and median calculated to determine skewness of the score distribution
- Student Z-scores and decile ranking will be calculated
- Item analysis will be performed to calculate:
  - The item-difficulty index (Pi) and item-difficulty index corrected for the effects of guessing (PDi)
  - The item-discrimination index (d) by point bi-serial correlation
  - The reliability of the SBA instrument by Cronbach’s co-efficient alpha (α)
  - The reliability of the SBA instrument by Cronbach’s co-efficient alpha (α) with each item removed
  - The standard error of measurement (SEM)
- Cohort-independent item difficulties will be determined by Rasch analysis to allow and inform item banking and aid in future assessment instrument construction.

Post examination analysis of SAQ instruments

After marking of the SAQ instrument the following will be performed:

- The frequency distribution of total scores will be inspected and mean, mode and median calculated to determine skewness of the score distribution
- Student Z-scores and decile ranking will be calculated
- Item analysis will be performed to calculate:
  - The item-difficulty index (Pi)
  - The item-discrimination (d) index (by Pearson correlation coefficients)
  - The reliability of the SAQ instrument by Cronbach’s co-efficient alpha (α)
  - The reliability of the SAQ instrument by Cronbach’s co-efficient alpha (α) with each item removed
  - The standard error of measurement (SEM)

Once the SEM has been calculated, moderation will occur in order to monitor and reduce inter-rater variability, ensure marking quality and the credibility of the primary standard and maintain fair standards.

Moderation of marking will include the anonymous double marking of the following student SAQ scripts (during a Moderation Meeting):

- The scripts of students whose total scores fall within 2 marks above and 5 marks below the primary standard.
• The scripts of students whose marks in the SAQ paper fall within 2 marks above and 5 marks below the pass mark for the SAQ paper

**Post examination analysis of OSCE and Integrated Understanding Practical Assessment instruments**

Following implementation of the instrument the following will be performed:

• The primary standard for each station will be determined by analysing the global rating scores using the BGR method
• The frequency distribution of total scores will be inspected and mean, mode and median calculated to determine skewness of the score distribution
• Student Z-scores and decile ranking will be calculated
• Item analysis will be performed to calculate:
  o The Item-difficulty index (P_i)
  o The item-correlations (by Pearson’s correlation coefficients)
  o The statistical significance of each item
  o The inter-station reliability of the examination by Kuder-Richardson 20 (KR-20)
  o The standard error of measurement (SEM)
• Post-hoc analysis of stations and circuits will be performed to ensure equivalence across different OSCE circuits (equating to different OSCE days).
5. Written Assessments

Each Year’s summative assessment includes a combination of both short answer questions (SAQ) and single best answer questions (SBA) and for Year 1 only, an Integrated Understanding Practical Assessment.

All assessments will include questions on the entire core curriculum to date.

In Phase 1 of the course, this will include specific questions on material from units in the immediately preceding semester, and questions incorporating material from all previous semesters. The proportion of these components will be determined by the Phase 1 Assessment Group according to approximate guidelines.

In Phase 2 of the course this will include content relating to the blocks in the preceding year as well as material from all previous years. There is an expectation that relevant Phase 1 material will be included in the examination, especially where a knowledge and understanding of basic science is required for the diagnosis and management of patients.

All questions in all end-of-semester assessments or end of year assessments will be compulsory. Students will be graded on the papers as a whole. For all written assessments students will be identified by student number only, so that marking is anonymous.

Module leads (in years 1 & 2) and block leads (in years 3, 4 and 5) are responsible for the production of summative examination questions. Assessment leads provide guidance on writing questions in house style and ensuring that all written assessments contain an appropriate spread of subject content across the papers to blueprint to the curriculum outcomes as effectively as possible. All questions will be subject to a central editing process.

FORMAT OF WRITTEN PAPER QUESTIONS

Short answer questions

All short answer questions in the written papers will comprise an initial statement, usually describing briefly a clinical scenario, followed by a series of sub-questions (normally between 3 and 7 sub-questions) relating to that scenario drawn from one or more parts of the course. The sub-questions will require a constructed response, where students have to write a short answer, annotate a diagram, complete a table or a similar variation of this principle. Students are expected to demonstrate knowledge and clinical reasoning in clearly written, short statements.

The marks allocated for each sub-question will be indicated and each question will have a total of 10 marks. It must be clear from the examination instructions that, where examinees write more than the specified number of answers to a sub question, the first answers will be marked and the remainder will be ignored, even if they are correct and the preceding answers incorrect or irrelevant.

Model answers are written for all questions with a marking scheme including main and possible alternate answers. Scripts are team marked against these model answers (see over).
**Single best answer questions (SBAs)**

Single Best Answer questions require the student to select the most appropriate answer from a list of answers (the ‘option list’) presented to them.

Each single best answer question will be worth one mark.

Each single best answer question will be set according to the guidelines adopted by the Medical Schools’ Council-Assessment Alliance (MSCAA) in the UK.

SBAs may be drawn from the national question bank maintained by the MSCAA. In the Year 5 Examination (Y5E) a set number of questions will be supplied by the MSCAA (common content questions). This ‘common content’ is sent to each medical school in the United Kingdom annually for inclusion into their individual examinations.

**Integrated Understanding Assessment in Year 1**

Students will rotate around a circuit answering questions that involve looking at models, anatomy prosections, bones, graphs, X-rays and other images. Students will be presented with a question in written format and will be required to select the most appropriate answer from a list of answers presented to them. Each question will be worth one mark.

**BLUEPRINTING OF WRITTEN ASSESSMENTS**

All questions in all written assessments will be blueprinted to the ‘outcomes for graduates’ prescribed by the General Medical Council in its document Outcomes for Graduates (2015). Across individual assessments and the whole pattern of assessments for a cohort there will be systematic sampling of key presentations and/or index cases, and modules / blocks and/or specialties. Questions will also be linked to learning outcomes for the curriculum as a whole defined by the General Medical Council in its document Outcomes for Graduates (2015) (see Appendix A).

**MARKING OF WRITTEN PAPERS**

All constructed response (short answer) questions will be team-marked according to pre-defined model answers which may be modified in the light of actual student responses according to a standard protocol. Scripts will be identified by student number only throughout the marking and standard setting processes.

All scripts for each question in each paper will be marked by a marking team working together. The membership of the group and of the teams shall be chosen to reflect a wide range of disciplines and specialties.

Examination papers will be divided into individual questions for scoring. A single team will mark all the examination papers for any particular question. All scripts will be marked to the same model answers regardless of whether there are one or several markers for a question. Where necessary, scripts will be reviewed to ensure marking consistency.

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1. [GMC Undergraduate Outcomes](#)
6. Clinical and practical assessments

Clinical assessments
All clinical assessments will be in the Objective Structured Clinical Examination (OSCE) format or a modification of that format. This consists of a series of ‘stations’ which candidates rotate around. At each station the candidates will perform a defined task or set of tasks, which may be part or all of a clinical consultation, a clinical procedural skill, a physical examination skill, assessment of images or data interpretation, explanation to a patient or health practitioner or a short, structured clinical discussion.

There will be a formative Objective Structured Clinical Examination taken by all students at the end of the first year of the programme. The Objective Structured Clinical Examinations in all other years will be summative assessments.

The standard setting for the OSCE examination will be via the Borderline Group Regression (BGR) method and this is described under the heading of ‘Standard Setting’.

The summary of the OSCE content is described in the information provided for each year.

Integrated Understanding Practical Assessment in Year 2
In the Integrated Understanding Practical Assessment, students will be examined in the practical elements of the units of the course previously studied, apart from the CHDD course. The assessment will be examiner-led and is designed to test a student’s ability to interact with an examiner as well as to demonstrate an integrated understanding of the topics taught during Phase 1 of the course. The standardised and structured questions will be delivered verbally by the examiner and students will be required to give verbal responses as well as indicating structures on a specimen, radiograph, model etc.

The standard setting for the Integrated Understanding Practical Assessment will be via the Borderline Group Regression (BGR) Method and is described under the heading of ‘Standard Setting’.
7. Year 1 Examinations: ESA 1 and 2

The Year 1 examinations will be taken by all students on the programme.

Semester 1:
Written Paper: All students will take an End of Semester 1 Assessment (ESA 1) consisting of two papers.
Paper 1: minimum 6 short answer (SAQ) questions
Paper 2: minimum 30 single best answer (SBA) questions.

Semester 2:
Written Paper: All students will take an End of Semester 2 Assessment consisting of two papers.
Paper 1: minimum 12 SAQ questions
Paper 2: minimum 60 SBA questions.
Paper 3: Integrated Understanding Assessment comprising a minimum of 50 marks

As described previously, the ESA 1 and ESA 2 written assessments and the IUA will be combined to give a single end of Year result. Students are required to obtain or pass the overall threshold (the combined pass mark) for these assessments to be satisfactory. Students who are unsatisfactory in this Year 1 assessment will be required to take the Year 1 resit examination.

A standard error of measurement will be calculated across the entire year 1 main-sit exam diet. Removal of this main-sit SEM will be applied to both the main sit and re-sit papers

THE RE-SIT EXAMINATION

Paper 1: minimum 15 SAQ questions
Paper 2: minimum 120 SBA questions
Paper 3: Integrated Understanding Assessment comprising a minimum of 50 marks

Students who are unsatisfactory in the Year 1 resit examination will be graded as Unsatisfactory for the Year.
8. Year 2 Examinations: ESA 3 and 4 and Year 2 Combined Clinical and Practical Examination

The Year 2 examinations will be taken by all students on the programme.

Semester 3:
Written Paper: All students will take an End of Semester 3 Assessment consisting of two papers.
Paper 1: minimum 12 SAQ questions
Paper 2: minimum 60 SBA questions.

Semester 4:
Written Paper: All students will take an End of Semester 4 Assessment consisting of two papers.
Paper 1: minimum 15 SAQ questions
Paper 2: minimum 90 SBA questions.

As described previously the ESA 3 and ESA 4 written assessments will be combined to give a single end of Year written paper result.

Year 2 clinical examination:
This will have the format of an Observed Structured Clinical Examination (OSCE) and comprise of a minimum of 6 stations (with each station being 5-12 minutes in length) with the total testing time lasting a minimum of 1 hour. The examination will generate a minimum of 12 separate items to be awarded a mark or grade. The OSCE will assess learning outcomes from the two-year Compassionate Holistic Diagnostic Detective course (CHDD). The composition of the OSCE will be outlined to the students in advance of the examination.

Reporting of exam irregularities
It is anticipated that the OSCE examinations will proceed without incident. However, if there are any perceived examination irregularities noted by students, patients, simulated patients or examiners, these should be reported on the day of the examination to a senior member of staff. Students will be asked to sign a form at the end of the OSCE examination and before leaving the examination building to confirm that either irregularities have been reported, or that no irregularities occurred during their assessment.

Integrated Understanding Practical Assessment:
This will comprise a minimum of 5 stations, and the total duration of the assessment will be a minimum of 40 minutes. A minimum of 5 separate marks or grades will be generated.

As described previously, the OSCE and Integrated Understanding Practical Assessment will be combined to give a single combined clinical and practical passing threshold.
A student whose performance is graded as unsatisfactory for either the Year 2 written or combined clinical and practical assessments will be required to take the Year 2 resit examination. Students will be required to re-sit the element of the examination in which they were unsuccessful, e.g. if a student passes the written examination but fails the combined clinical and practical examination, they will be expected to re-sit the year 2 OSCE and the Integrated Understanding Practical Assessment.

THE RE-SIT EXAMINATION

Written Examination:
- Paper 1: minimum 15 SAQ questions
- Paper 2: minimum 120 SBA questions

OSCE: The re-sit OSCE examination will have the same format as the main sit OSCE.

Integrated Understanding Practical Assessment: The re-sit Integrated Understanding Practical Assessment will have the same format as the main sit Integrated Understanding Practical Assessment.

A student whose performance is graded as unsatisfactory for either the Year 2 resit written or combined clinical and practical examination will be graded as Unsatisfactory for the Year.
9. Year 3 Examination (Y3E)

The Year 3 examination must be taken by all students before the start of Year 4 (September 2018) and consists of a written examination and a clinical examination.

In future years, the year 3 examination will be scheduled in June.

Written Papers
Each student will sit two written papers:
- Paper 1: minimum 15 short answer questions
- Paper 2: minimum 120 single best answer questions

In 2017/18, students will have completed semester 5 of the phase 1 curriculum and undertaken three clinical attachments in medicine, surgery and GP/mental health. Assessment material will reflect the whole year of study and include material from semester 5 as well as from the relevant clinical blocks. Following the synoptic philosophy of teaching and assessment, clinically relevant phase 1 material may be tested in the context of the Year 3 Apprenticeship material.

Standard setting will follow the guidance previously outlined in section 4.

Year 3 Clinical Examination
This will be have the format of a modified Observed Structured Clinical Examination (OSCE) and comprise of a minimum of 12 stations (with each station being a minimum of 10 minutes in length), and generating a minimum of 18 grades. The minimum overall testing time will be 2 hours.

In 2017, the examination will be bespoke and designed to reflect the unique experience of this cohort across their academic year.

Structure of the assessment
Each student will be examined at a series of stations made up from the components described below. Components may be combined together to make longer stations testing integration of competencies:
- Observed History Taking
- Observed Clinical Examination
- Interpretation of Investigations
- Developing a Management Plan
- Procedural Skills
- Pharmacology
- Safe prescribing
- Problem solving
- Patient safety
- Professionalism
- Communication skills
All stations will have at least one examiner present.

**Standard setting** will follow the guidance previously outlined in section 4.

**Reporting of exam irregularities**

It is anticipated that the OSCE examinations will proceed without incident. However, if there are any perceived examination irregularities noted by students, patients, simulated patients or examiners, these should be reported on the day of the examination to a senior member of staff. Students will be asked to sign a form at the end of the OSCE examination and before leaving the examination building to confirm that either irregularities have been reported, or that no irregularities occurred during their assessment.

**THE RE-SIT EXAMINATION**

Written Paper:
- Paper 1: minimum 15 SAQ questions
- Paper 2: minimum 120 SBA questions

OSCE: The re-sit OSCE examination will have the same format as the main sit OSCE.

Students who are graded as unsatisfactory for either the Year 3 Resit written or OSCE examination will be graded as Unsatisfactory for the Year.
10. Year 4 Examination (IPE: Old Curriculum)

The IPE examination must be taken by all students in Year 4 (February 2018) and consists of a written examination and a clinical examination.

**Written Papers**
Each student will sit two written papers:
- Paper 1: minimum 15 short answer questions
- Paper 2: minimum 120 single best answer questions

Standard setting will follow the guidance previously outlined in section 4.

**Year 4 Clinical Examination**
This will be have the format of a modified Observed Structured Clinical Examination (OSCE) and comprise of a minimum of 6 stations (with each station being 10 - 30 minutes in length), generating a minimum of 20 grades.

**Structure of the assessment**
Each student will be examined at a series of stations made up from the components described below. Components may be combined together to make longer stations testing integration of competencies:

- Observed History Taking
- Observed Clinical Examination
- Interpretation of Investigations
- Developing a Management Plan
- Procedural Skills
- Prescribing
- Problem solving
- Patient safety
- Professionalism
- Communication skills

All stations will have at least one examiner present.

**Standard setting** will follow the guidance previously outlined in section 4.
Reporting of exam irregularities

It is anticipated that the OSCE examinations will proceed without incident. However, if there are any perceived examination irregularities noted by students, patients, simulated patients or examiners, these should be reported on the day of the examination to a senior member of staff. Students will be asked to sign a form at the end of the OSCE examination and before leaving the examination building to confirm that either irregularities have been reported, or that no irregularities occurred during their assessment.

THE RE-SIT EXAMINATION

Written Paper:
Paper 1: minimum 15 SAQ questions
Paper 2: minimum 120 SBA questions

OSCE: The re-sit OSCE examination will have the same format as the main sit OSCE.

Students who are graded as unsatisfactory for either the Year 4 Resit written or OSCE examination will be graded as Unsatisfactory for the Year.
11. Year 5 Examination (FPE: Old Curriculum)

The Final Professional Examination (FPE) must be taken by all students in Year 5. The examination is in two parts, a written and a clinical examination.

**Written Papers**

Each student will sit two written papers:

- Paper 1: minimum 15 short answer questions
- Paper 2: minimum 120 single best answer questions

Standard setting will follow the guidance previously outlined in section 4.

**Year 5 Clinical Examination**

This will be have the format of a modified Observed Structured Clinical Examination (OSCE) and comprise of a minimum of 7 stations (with each station being 10 - 30 minutes in length), generating a minimum of 24 grades.

In 2017 the examination will be bespoke and designed to reflect the unique experience of this cohort across their academic year.

**Structure of the assessment**

Each student will be examined at a series of stations made up from the components described below. Components may be combined together to make longer stations testing integration of competencies:

- Observed History Taking
- Observed Clinical Examination
- Interpretation of Investigations
- Developing a Management Plan
- Procedural Skills
- Prescribing
- Problem solving
- Patient Safety
- Professionalism
- Communication skills

All stations will have at least one examiner present.
**Standard setting** will follow the guidance previously outlined in section 4.

**Reporting of exam irregularities**

It is anticipated that the OSCE examinations will proceed without incident. However, if there are any perceived examination irregularities noted by students, patients, simulated patients or examiners, these should be reported on the day of the examination to a senior member of staff. Students will be asked to sign a form at the end of the OSCE examination and before leaving the examination building to confirm that either irregularities have been reported, or that no irregularities occurred during their assessment.

**THE RE-SIT EXAMINATION**

Written Paper:
- Paper 1: minimum 15 SAQ questions
- Paper 2: minimum 120 SBA questions

OSCE: The re-sit OSCE examination will have the same format as the main sit OSCE.

Students who are graded as unsatisfactory for either the Year 5 Resit written or OSCE examination will be graded as Unsatisfactory for the Year.
12. Feedback to students after assessments

The Medical School’s policies on feedback for students after assessments are based on the University’s policies. These policies are available at Feedback on marked work and Feedback on Examinations.

1. The provision of feedback following a summative assessment is part of a wider process of feedback linked to learning and the delivery of the curriculum. Feedback is commonly included within teaching events, some in a formal manner and others more informally. To support learning, formative assessments are provided, with a key objective being to provide feedback to help students identify both strengths and weaknesses and to allow opportunities for reflection and review. Feedback related to summative assessments is to be seen in this context.

2. The University has set out five schemes for feedback after examinations. With regard to summative assessments outlined in this document, the Medical School will follow Scheme 5 (a bespoke model of feedback), since the process described below includes elements of both Scheme 2 and 4 and has additional features.

3. The final mark agreed by a Panel or Board of Examiners is not negotiable.

4. Students will not be allowed to see their examination scripts. This is in accordance with Schedule 7.9 of the Data Protection Act 1998.

5. The Medical School will arrange for feedback on examination performance to be provided to all students. This will be provided irrespective of whether a student has passed or failed an assessment.

WRITTEN ASSESSMENT FEEDBACK:

Phase 1: Students in Phase I of the course will receive feedback for the End of Semester Assessments and re-sit examinations that will include the following information:

- SAQ mark, SBA mark, Integrated Understanding Assessment mark, and Total mark.
- Pass mark for the combined written papers
- Student individual Z score and class Z score range
- Student’s decile for the assessment
- A breakdown of their SAQ and SBA marks related to individual blocks of teaching and to key domains. The domains include basic sciences such as anatomy, biochemistry, physiology, pharmacology, sociology, scientific methodology etc. and skills relevant to Phase 1 of the course e.g. diagnosis, prescribing decisions, patient safety.
- The total marks available in the paper for each teaching block and domain will be shown alongside the average class performance for comparison.
Phase 2: Students in phase 2 of the course will receive feedback that will include the following information:

- SAQ mark, SBA mark, and Total mark
- Pass mark for the combined written papers.
- Student individual Z score and class Z score range.
- Student’s decile for the assessment
- A student’s breakdown of SAQ and SBA marks according to individual clinical specialties and key competence domains. The domains will include Basic Science, Diagnosis, Investigations, Management, Patient Safety, Population Health, Prescribing and Professionalism.
- The total marks available in the paper for each specialty and domain will be shown alongside the average class performance for comparison

CLINICAL AND PRACTICAL EXAMINATION FEEDBACK:

All students will be provided with feedback following a clinical and / or practical examination.

The Year 1 OSCE has been developed as a purely formative assessment with the intention of giving qualitative feedback to students regarding their progress in achieving the outcomes of the Compassionate Holistic Diagnostic Detective (CHDD) course they have completed to date. Attendance at this assessment is compulsory.

Students will receive verbal feedback from the examiners during the OSCE. Summary written information will be provided after the examination. The focus is on immediate rich qualitative feedback.

Following all summative OSCEs and practical assessments, each student will receive a report containing:

- Examiner grade (fail, borderline, pass, good, excellent) for each individual section within each station.
- Number of merit and de-merit scores
- Total mark for the OSCE alongside the maximum mark available and the average class performance
- Pass mark for the assessment in terms of total mark and maximum permitted de-merit points.
- Student’s decile for the assessment
- Examiner comments (see below):
Examiner comments: Each student will receive a report of the individual examiner comments that have been transcribed from the examination sheets. As examiner comments currently require manual input and review, these will be released after the main results have been published with the exception of students who were unsatisfactory in the OSCE examination, when examiner comments will be available at the same time as they are notified of their examination results.

Any concern related to patient safety will be flagged and fed back to the student individually by the assessment team. The professionalism support group will follow up any students about whom professionalism concerns have been raised.

All students graded as unsatisfactory are invited to attend the Academic Support Unit immediately after the main sit examination. In addition, any student can self-refer to the Academic Support Unit if they feel they are struggling academically.

Students in phase 1 of the course will have the opportunity to review their summative examination feedback with their Personal Tutor. Students in the clinical years of the course (years 3, 4 and 5) will have the opportunity to review their progress with a senior member of staff on an annual basis.

Students who have their course terminated after failing a re-sit examination can be provided with examination feedback at their request. This feedback will be the same as that provided for students who have failed a first-sit examination.

Note: The process for provision of feedback related to summative assessments continues to evolve and develop. A number of initiatives linked to the use of appropriate software are currently being developed and evaluated.
13. Merit and Distinction awards

MERIT AND DISTINCTION OF THE CORE CURRICULUM IN PHASE 1

The awards of merit and distinction for assessment in phase 1 will be made at the end of each academic year. Specifically students will be awarded a merit or distinction where appropriate for their overall performance in year 1, year 2 written and year 2 clinical and practical assessment.

In Phase 1 written examinations, students will typically be considered for the award of merit if their mark is at least 0.9 standard deviations above the pass threshold for the award of merit and more than 1.3 standard deviations above the pass threshold for distinction. However these boundaries are reviewed in light of the performance of the assessment as a whole (and not that of individual students). The awards of merit and distinction for OSCE examinations is determined by a combination of the borderline regression cut score and the number of merit marks accumulated during the examination circuit. Again the boundaries for these awards are determined following psychometric analysis of the examination.

The phase 1 assessment group will make recommendations for the awards of merit and distinction to either the Panel of Examiners or the Board of Examiners, who will ratify the decisions.

MERIT AND DISTINCTION IN Year 3, 4 and 5 Exams

The awards of merit and distinction for assessment components in the clinical years will be made following each main sit examination. Students can be awarded a merit or distinction for each written and each clinical examination in the clinical years.

In Phase 2 written examinations, students will typically be considered for the award of merit if their mark is at least 1 standard deviation above the pass threshold for the award of merit and more than 1.5 standard deviations above the pass threshold for distinction. However these boundaries are reviewed in light of the performance of the assessment as a whole (and not that of individual students). The awards of merit and distinction for OSCE examinations is determined by the number of merit marks accumulated during the examination circuit. Again the boundaries for these awards are determined following psychometric analysis of the examination.

The phase 2 Panel of Examiners will determine the final threshold for merit and distinction in the clinical years.
14. Award of Honours

The degree of MB ChB may be awarded with honours at the discretion of the Board of Examiners. Honours calculations are based on the points allocated across the curriculum for merit and distinction awards.

The current allocation (applicable for awarding honours in 2018) is as follows:

L5 (5-year curriculum) cohort

<table>
<thead>
<tr>
<th>Examination</th>
<th>Points for Merit</th>
<th>Points for Distinction</th>
</tr>
</thead>
<tbody>
<tr>
<td>Phase 1 overall</td>
<td>2</td>
<td>4</td>
</tr>
<tr>
<td>Phase 1 SSC overall</td>
<td>2</td>
<td>4</td>
</tr>
<tr>
<td>Living with Long-term conditions assignment</td>
<td>2</td>
<td>4</td>
</tr>
<tr>
<td>IPE written examination</td>
<td>2</td>
<td>4</td>
</tr>
<tr>
<td>IPE OSCE</td>
<td>2</td>
<td>4</td>
</tr>
<tr>
<td>FPE written examination</td>
<td>4</td>
<td>8</td>
</tr>
<tr>
<td>FPE OSCE</td>
<td>4</td>
<td>8</td>
</tr>
</tbody>
</table>

L4 (4-year curriculum) cohort

<table>
<thead>
<tr>
<th>Examination</th>
<th>Points for Merit</th>
<th>Points for Distinction</th>
</tr>
</thead>
<tbody>
<tr>
<td>Phase 1 overall</td>
<td>2</td>
<td>4</td>
</tr>
<tr>
<td>Patient Centred Clinical Practice</td>
<td>2</td>
<td>4</td>
</tr>
<tr>
<td>IPE written examination</td>
<td>2</td>
<td>4</td>
</tr>
<tr>
<td>IPE OSCE</td>
<td>2</td>
<td>4</td>
</tr>
<tr>
<td>FPE written examination</td>
<td>4</td>
<td>8</td>
</tr>
<tr>
<td>FPE OSCE</td>
<td>4</td>
<td>8</td>
</tr>
</tbody>
</table>

The award of Honours can only be given to those students representing the best performing students, therefore the threshold for the award of honours can vary slightly from year to year.

The calculation for the award of Honours in the New Curriculum and the Transition Years is currently under review.
15. Calculation of the Medical School Performance for the Educational Performance Measure (EPM)

All applicants for the United Kingdom Foundation Training Programme are assessed and ranked on their performance at medical school in relation to their graduating cohort up to the point of application to the Foundation Programme. Applicants are 'competition ranked' into the top 10%, top 20% etc. of their cohort and allocated into the appropriate deciles. Decile scores are determined by individual medical schools.

The Educational Performance Measure for 2018 will be calculated as shown below. Calculations on each exam score are performed to give a maximum number of points up to a total score of 400 marks including the Intermediate Professional Examination (IPE) in year 4. Exams are weighted with those in ascending years receiving an increased weighting. A scaling calculation is used for students in the 4-year cohort to ensure their overall scores are equivalent to their peers on the 5-year programme.

<table>
<thead>
<tr>
<th>Year</th>
<th>Assessment</th>
<th>EPM ‘Stage’</th>
<th>Total ‘% points’ on which students are ranked</th>
<th>Effective contribution to overall decile score (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Option A</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>WEIGHT</td>
</tr>
<tr>
<td>1</td>
<td>ESA 1</td>
<td>1</td>
<td>400</td>
<td>5</td>
</tr>
<tr>
<td></td>
<td>ESA 2</td>
<td></td>
<td></td>
<td>5</td>
</tr>
<tr>
<td></td>
<td>Year 1 OSCE</td>
<td></td>
<td></td>
<td>5</td>
</tr>
<tr>
<td>2</td>
<td>ESA 3</td>
<td>2</td>
<td></td>
<td>5</td>
</tr>
<tr>
<td></td>
<td>ESA 4</td>
<td></td>
<td></td>
<td>5</td>
</tr>
<tr>
<td>3</td>
<td>PPE Written</td>
<td>2</td>
<td></td>
<td>12.5</td>
</tr>
<tr>
<td></td>
<td>PPE OSCE</td>
<td></td>
<td></td>
<td>12.5</td>
</tr>
<tr>
<td>4</td>
<td>IPE Written</td>
<td>3</td>
<td></td>
<td>25</td>
</tr>
<tr>
<td></td>
<td>IPE OSCE</td>
<td>4</td>
<td></td>
<td>25</td>
</tr>
</tbody>
</table>
16 Assessment of Clinical Placements

Clinical Placements are a central component in phase 2 of the medical course.

At the end of each clinical placement a report will be prepared by the placement tutor (or block team) for each student, evaluating performance in each of the categories described below. The primary purpose of the block report is to ensure that each student receives timely and appropriate information on their performance.

The following elements will be reported for all clinical placements:

Attendance
Students must follow the guidance in in the “Attendance and Absence Procedures” document.

Professionalism
Students in whom there is no concern will be graded as satisfactory. Students who exemplify good practice will receive additional comments of commendation.

If a professionalism issue is identified this will be discussed directly with the student by the Site Lead, Block Lead or Head of Year. Depending on the nature of the concern the student can be referred to the Professionalism Support Unit or to the Health and Conduct Committee (HCC) depending on the nature and seriousness of the issue identified. Any significant issue that impacts on patient safety will be discussed at the time it occurs and notified to the Chair of HCC and/or Head/Deputy Head of School.

Completion of specified course work
All clinical placements or blocks have workbooks containing a variety of specified tasks for students to complete. The nature of these tasks varies widely. The Tutor or Block Lead will review the completed workbook to confirm that the student has engaged satisfactorily with the learning material and opportunities.

Placement Formative Assessments.
Each placement will include a compulsory formative assessment.

Formative Feedback and Support:

Note: The purpose of the clinical placement assessment is to provide formative feedback.
Students who are identified as being below a satisfactory standard are expected to meet with the Placement Lead or Tutor to review their learning and consider strategies for subsequent
placements. Any student is allowed to refer themselves to the Academic Support Unit where they will meet a member of staff to review their performance and develop a learning action plan.

The placement reports will be considered formally by the Medical School at the mid-point of the Junior and Senior Rotations. A student who is identified as struggling will be offered support as appropriate. This may include the following options depending on individual circumstances: review by Academic Support Unit, Pastoral Support Unit and Professionalism Support Unit. It may be necessary for the student to meet initially with the Head of Year/Phase 2 lead to review the most appropriate channel of support.

Certification of procedural skills
All students are required to demonstrate competence at a defined list of clinical skills, specified by the General Medical Council in ‘Tomorrow’s Doctors’ (2009), to be recorded as the course progresses. The Board of Examiners may require students to complete certain elements of clinical skills training in order to progress from Phase 1 to Phase 2.

Students are required to have completed all parts of the clinical skills training by the end of the course in order to graduate. Any student who does not demonstrate competence in all specified skills by the end of the course will be recommended for course termination, irrespective of performance in summative examinations, and their case considered by the Board of Examiners.
17. Responsible Bodies

Alternative Examination Arrangements

Regulations concerning Alternative Examination Requirements can be found:

Alternative Examination Arrangements

When granted, alternative examination arrangements will be applied to summative written and / or clinical examinations.

Formative assessments are delivered in small cohorts so all students will be given additional time for written assessments. Adjustments for formative clinical examinations will be decided on a case-by-case basis including discussion with the student concerned.

Mitigating Circumstances Panel

The University recognises that students may suffer from an illness or other serious and unforeseen event or set of circumstances which may affect performance. The University Mitigating Circumstances regulations were updated in August 2017 and can be found:

Guide to Mitigating Circumstances

A Mitigating Circumstances Panel will meet to consider submissions before and after summative assessments. Membership of Panels will be determined by the Head of School.

NOTE: The recommendations made by the Panel will take into account the nature of the MB ChB Programme and the expectation that students are required to work as safe future doctors.

The examination marks and progress decisions released following the meeting of the Board of Examiners should clearly identify results where mitigation has been considered and accepted. Boards of Examiners will accept the recommendations of Mitigating Circumstances Panels but will not be expected to receive evidence. Boards of Examiners will determine the outcome of an assessment for an individual student in the light of the Mitigating Circumstances Panel’s recommendation.
18. Board of Examiners and Panel of Examiners

The information contained in this section is based on the University’s Regulations for taught programmes. Some points have been clarified with regard to the MB ChB programme. Decisions on outcomes of summative assessments and progression on the programme are made by the Panel of Examiners and the Board of Examiners. The sections below outline the working of these respective groups.

BOARD OF EXAMINERS

A Board of Examiners shall be convened for the MB ChB programme, to consider the performance of students which contributes to an award of the University.

A Board of Examiners shall also consider the progression of students from one stage of a programme to the next.

The function of a Board of Examiners is to:

- confirm the recommended examination outcomes received from one or more Panels of Examiners;
- consider the academic performance, professionalism and patient safety status of individual students as it relates to progression or award decisions;
- agree progression, and awards.

A Board of Examiners shall consist of:

- The Chair, which will normally be the Head of School. In exceptional circumstances and with the agreement of the Academic Registrar, the Head of School may nominate a member of staff of the School to act as Chair for a meeting of the Board of Examiners.
- Two members of each Panel of Examiners contributing assessment outcomes to the Board, one of whom shall normally be the Chair of the Panel of Examiners.
- Such other members of the academic staff, including unit leads or clinical block leads, as are necessary to make informed progression and award decisions.
- External Examiners for each of the assessments included in the remit of the Board.

The members of a Board of Examiners shall be agreed annually.

Attendance at a meeting of a Board of Examiners should consist of at least 75% of the membership and must include the Chair. Where an individual external examiner is unable to attend a meeting of the Board of Examiners, s/he shall normally be required to submit written comments on the outcomes of blocks, and the performance of candidates so that these views may be taken into account during the meeting.

At least one external examiner, from a team of examiners, shall be present at a meeting of a Board of Examiners, in person or via a means of electronic conferencing, where awards are being made to
students. On occasions when the Board of Examiners is expecting to consider progression decisions only, external examiners are not required to attend.

A representative of the Academic Registrar, normally a senior member of the administrative staff of the University, shall attend each meeting of a Board of Examiners where awards to students are under consideration to ensure that the proceedings of the Board are carried out in accordance with the regulations.

The business of the Board may not be transacted in the absence of the Academic Registrar’s Representative.

PANEL OF EXAMINERS
The function of a Panel of Examiners is to:
- consider patterns of student achievement for individual summative assessments, confirming the standards of achievement in the assessment, and ensuring that marking standards are sufficiently reliable to ensure that outcomes appropriately reflect student achievement against the written criteria;
- recommend summative assessment outcomes to one or more Board of Examiners;
- agree the release of provisional semester outcomes to students.

A Panel of Examiners shall consist of:
- Chair of the Panel of Examiners. This will normally be the Assessment Lead. The Head of School may nominate a member of staff of the School to act as Chair for a meeting of the Panel of Examiners.
- Such other members of the academic staff as are necessary to make informed progression decisions.

Conduct of business
There shall be a standard formal agenda for meetings of Panels and Boards of Examiners. The business of Panels and Boards remains confidential to the membership.

Panels and Boards shall make decisions on the basis of evidence of student achievement. Each Panel and each Board will be provided with a standard dataset to include the outcomes of each unit of assessment being considered by the Panel; and the profile of each student for whom a progression or award decision is to be made by the Board.

Semester and component marks presented to a Panel or Board of Examiners will have been carefully considered by the markers who will have made informed academic judgments such that the overall outcomes fairly reflect the levels of attainment of the students. This should be done by carefully assessing the students' work against written criteria.

Boards of Examiners shall not adjust component marks to elevate candidates across a classification boundary.
All members of the Board are equal; no particular weight shall be given to the views of the external examiner(s). An external examiner has no veto in relation to decisions regarding individual students. If a vote in any particular case is necessary, the Chair shall have the casting vote.

A Panel or a Board may defer a decision in relation to an individual student if insufficient information about the performance of the student is available.

All recommendations for an award shall be recorded by the Academic Registrar’s Representative; this shall constitute the definitive record against which results are entered into the SITS student record and notified to students, and shall be held by the Registry, according to the University’s retention schedule.

The Academic Registrar’s Representative shall ensure that the lists of recommended awards is signed by the Chair and those external examiners present at the meeting.

The department shall provide a secretary to the Board, who shall take notes which shall include an account of any discussion in relation to difficult cases.

The Chair of a Board may make decisions on behalf of the Board, where a decision in relation to an individual student has been deferred. This will include making recommendations for intermediate awards, where appropriate.

The Board may make recommendations for the award of prizes to students.

**Mitigating circumstances**
Panels and Boards of Examiners will accept the recommendations of Mitigating Circumstances Panels but will not be expected to receive evidence. Boards of Examiners will determine the outcome of an assessment for an individual student in the light of the Mitigating Circumstances Panel’s recommendation.

The examination marks and progress decisions released following the meeting of the Board of Examiners should clearly identify results where mitigation has been considered and applied.

**Progression decisions**

The regulations relating to student progression and graduation are found in regulations section of the Leicester Medical School website.

A student’s progress will be reviewed at each progression point to determine whether s/he has met the requirements to progress to the next stage of the programme. Progression depends on both achieving a satisfactory outcome in the summative examinations for a given year as well as demonstration of an acceptable level of professional conduct and upholding of their professional obligations. In each case where a student has failed to meet the requirements to progress it will be determined whether the Board of Examiners makes a recommendation that s/he be withdrawn from
the programme. The Board of Examiners shall consider whether any intermediate award may be made based on the student’s academic achievement.

It should be noted that when students are required to repeat a year for whatever reason, they will be required to sit and pass all the examinations again as well as repeating the year.

Students who are granted an additional year following academic failure without mitigation will normally only be allowed one additional attempt at whichever component of the assessment they failed twice the previous year. Students repeating a year who have mitigation accepted, who are required to repeat the year for professionalism issues or who have had a suspension of studies without academic failure will normally be allowed two attempts at all summative assessment components within the repeat year. All students who are repeating a year will be expected to sit assessments with the year group cohort. There will not be provision of additional assessment opportunities beyond the main sit and re-sit examinations.
19. Phase 1 and Phase 2 Assessment Groups

PHASE 1 ASSESSMENT GROUP

The group, chaired by the Phase 1 Assessment Lead, is responsible for the oversight of all aspects of assessment in Phase 1, and the management of assessment of the core curriculum.

Membership

The Phase 1 Assessment Lead (Chair)
The Programme Lead for Assessment
The Quality Lead for Assessment
The Lead of each individual assessment (e.g. Year 2 OSCE)
One module leader from each of semesters 1 to 4
At least one medically qualified member of staff (who may be the programme lead, phase 1 assessment lead, or the quality lead)
The Assessment Manager
Assessment administrator (Secretary)

The group is responsible for:

1. Coordination of all core assessments in Phase 1
2. Maintenance of question banks for written core assessments
3. Construction of appropriate Phase 1 assessments and re-sit examinations for the curriculum, including:
   - Blueprinting to curriculum outcomes
   - Appropriate balance of unit specific and integrated questions
   - Appropriate balance of question difficulty and diversity
4. Oversight of administration of all core assessments in Phase 1 including:
   - Liaison with administrative staff to ensure appropriate room bookings
   - Identification of need for invigilators to be nominated under service level agreements with medical school departments
   - Preparation of scripts for marking
5. Administration of marking of Phase 1 assessments and resit examinations including:
   - Identification of staff requirements for marking teams to be nominated under service level agreements with medical school departments
   - Oversight of data entry and processing, and production of spread sheets for standard setting
6. Oversight of clinical assessments including OSCEs
   - Ensuring that:
     - Appropriate facilities are available for clinical examinations
     - Sufficient, appropriately trained examiners are available for each clinical examination
     - Examiners are briefed in a consistent way for each examination session at every site
An appropriate mix of stations are used for all examinations
Examinations are conducted in accordance with the code of practice for assessment

- Collation and analysis of marks to:
  - Ratify and ensure the assessments are fair, valid, reliable and generalisable
  - Prepare lists of failing students and, where appropriate, those awarded merit and distinctions to be considered by the Phase 1 Board of examiners
- Standard setting by appropriate methods
- Quality control of clinical assessments, including:
  - On-going monitoring of the conduct of assessments, and identification of strategies to improve assessment practice
  - Monitoring of appropriate psychometric analyses of assessment outcome

ASSESSMENT GROUP FOR THE CLINICAL YEARS (Phase 2)

The group, chaired by the Programme Lead for Assessment is responsible for the coordination of all aspects of assessment in Phase 2, and the management of assessment of the core curriculum.

Membership
The Programme Lead for Assessment (Chair)
The Quality Lead for Assessment
The Clinical Lead for Assessment
Representatives of the clinical blocks that constitute the Assessment being discussed
The Phase 1 Assessment Lead
The Assessment Manager Assessment administrator (Secretary)

The group is responsible for:
Coordination of all core assessments in Phase 2

1. Oversight of assessments within clinical blocks, including:
   - Approval of the pattern of assessments within each block to ensure:
     - Assessment methods are appropriate for the outcomes to be tested
     - The assessment load is comparable across blocks

2. Written assessments in phase 2, including:
   - Maintenance of question banks
   - Construction of appropriate papers including:
     - Blueprinting to curriculum outcomes
o Appropriate balance of question difficulty and diversity

- Oversight of administration of the assessments including:
  - Liaison with administrative staff to ensure appropriate room bookings
  - Identification of need for invigilators to be nominated under service level agreements with medical school departments
  - Preparation of scripts for marking

- Administration of marking including:
  - Identification of staff requirements for marking teams and recruitment of suitable staff from the medical school and NHS
  - Oversight of data entry and processing, and production of spreadsheets for standard setting

- Conduct of appropriate standard setting procedures

3. Clinical assessments in phase 2, including:

- Ensuring that:
  - Appropriate facilities are available for clinical examinations
  - Sufficient, appropriately trained examiners are available for each clinical examination
  - Examiners are briefed in a consistent way for each examination session at every site
  - An appropriate mix of patients, including where appropriate simulated patients are available for all examinations
  - Examinations are conducted in accordance with the code of practice for assessment in phase 2

- Collation and analysis of marks to:
  - Ratify and ensure the assessments are fair, valid, reliable and generalisable
  - Prepare lists of failing students and, where appropriate, those awarded merit and distinctions to be considered by the Phase 2 Board of examiners

- Standard setting by appropriate methods

- Quality control of clinical assessments, including:
  - On-going monitoring of the conduct of assessments, and identification of strategies to improve assessment practice
  - Monitoring of appropriate psychometric analyses of assessment outcome

4. Oversight of the assessment of student selected components in Phase 2, including the elective period to ensure that:

- The model(s) of assessment chosen for each is appropriate to the aims and learning outcomes

- The demands made upon students are comparable across student selected components
20. External Examiners

The Medical School follows the University Regulations with regard to External Examiners. See: Senate Regulation 7: Regulations governing the assessment of taught programmes Senate Regulation 7 and the Assessment Regulations Handbook

The appointment and role of external examiners is detailed in the University External Examiners Handbook. Information related specifically to the MB ChB course is contained in the Leicester Medical School External Examiner Guide.

Appointment of External Examiners
The Medical School will recommend the appointment of no more than 12 external examiners with a range of interests and expertise, particularly of assessing students within curricula of similar structure, sufficient to deal with all material covered in the core and Student selected components of the MB ChB.

The Department will have regard to the following:
- Only persons of seniority and experience who are able to command authority should be recommended for appointment. In order to have sufficient time for proper performance of their duties, individuals should not normally be expected to hold more than two external examiner-ships at first degree level. The Department will check how many examiner-ships a prospective examiner holds before recommending an appointment.
- Former members of staff or individuals who have been closely associated with the institution should not be invited to become external examiners unless a period of five years has elapsed and all students taught by or with the external examiner have completed their programme.

Period of Service
External examiners are invited to hold office for four consecutive years, and may only very exceptionally be appointed for a fifth and final year.

Briefing of External Examiners
On appointment each external examiner will be sent:
- The link to the guidance provided by the Quality Office External Examiners which includes the External Examing Handbook and online training
- a copy of the most recent curriculum documents, which include information about the philosophy, educational principles, structure and detailed aims and learning outcomes of the curriculum
- a written description of the role of external examiners within the MB ChB course
- a copy of the code of practice for assessment of students
- in addition, a briefing meeting will be held in advance of the main summative examinations
Participation of External Examiners in the Summative Assessments

External examiners have the right to scrutinise all assessments taking place within the curriculum. Specifically:

1) Setting of Assessments
   - All question papers used in summative examinations including re-sit examinations shall be sent to external examiners for approval.

2) Assessment Results
   - External examiners are able to inspect a sample of scripts from the end of year and re-sit examinations, after they have been double marked internally, at the end of each academic year.

3) Boards of Examiners
   - External examiners have the right to be present at all examiners’ meetings at which significant decisions are to be taken including the Panel of Examiners. An external examiner should be present, or available for telephone consultation, at meetings which make award decisions.

4) Comments and Advice
   - External examiners will be encouraged to comment on the assessment process, and they will be consulted about any changes to the assessment procedure.
   - Senior members of the Department will discuss with external examiners the structure and content of course. External examiner comments will be discussed at the Learning and Teaching Committees in the autumn (having been received in July / August).

5) Written Reports
   - External examiners are required to make written reports to the Vice-Chancellor at the end of each academic year.
   - The reporting system will follow that outlined in the Assessment Regulations Handbook and the External Examiner Handbook.
21. Plagiarism and cheating

All assessments will be subject to the University of Leicester Senate Regulation regarding Discipline: Senate Discipline Regulations

Student advice regarding plagiarism can be found at: Plagiarism Regulations

Plagiarism detection software will be used on submitted assessments.

If a candidate is suspected of plagiarism or cheating in any assessment or examination, this will be investigated. If proven, the investigating committee will determine the penalty. It is likely that the penalty would be an ‘Unsatisfactory’ grade in the assessment at least, but could be more severe. Penalties applied in relation to plagiarism or cheating in assessments will be recorded on the student’s official transcript and a record of the offence will be held. Also, the Fitness to Practise Committee will be informed of the offence which may lead to further action. Cases of dishonesty may, where relevant, be reported to professional bodies.
22. Absence from an Examination

All summative assessments are compulsory.

It is a student’s responsibility to inform the Medical School if they will not be attending an examination if this has not been pre-arranged. Students should inform the School Office who will have contact numbers for the Assessment Staff (who are generally off-site on the day of an examination).

If a student fails to attend a summative assessment and this was not anticipated by the Medical School and the Medical School have not been informed, then the Assessment team will attempt to contact the student if contact details are known. If the student cannot be contacted the assessment team will inform the Pastoral Support Team and the School Office.

If a student fails to attend a summative assessment then under normal circumstances, the student will be managed in exactly the same way as a student who has taken the assessment and failed. This means that such a student will be required to take the Resit Examination and will be assessed at the Resit Examination in exactly the same way as students who attended the examination and are resitting because of a previous failure. However, if the student has been granted mitigation before an assessment and therefore does not sit the examination, they will normally be able to count the re-sit as a first sit both in terms of decile ranking for the educational performance measure, and in terms of the opportunity to obtain a merit or distinction award for excellent performance. This is not automatic and is decided on an individual basis.

If a student does not complete a written examination, they will be marked for the components they have completed but there will be no alteration of the pass mark to account for the proportion of the examination which has not been completed. If a student does not complete a clinical examination, they will be marked as unsatisfactory regardless of the number of stations completed as all elements of a clinical examination need to be completed to ensure adequate demonstration of competence.

If a student is absent due to unforeseen ill-health or any other serious unforeseen circumstance (for example a car accident on the day of the examination) they may submit a mitigating circumstances form which will be considered by the Mitigating Circumstances Panel but they will need to demonstrate that their situation could not have been anticipated before the examination. The outcome of the Mitigating Circumstances Panel will then be considered by the Board of Examiners.

The Board of Examiners will follow the ‘Regulations for the Progression and Award of the degrees of Bachelor of Surgery and Bachelor of Medicine’.
25. Prizes

A number of prizes are available to students throughout Phase 1 the course.

Phase 1 Prizes

- Phase 1 Prize
- Sir Robert Kilpatrick Prize
- BMA Prize
- Ballantine Prize
- Amir Gulamhusein Prize
- Lymphoedema prize

Phase 2 Prizes

- Prize for Best Overall Final Year Student
- BMA Prize for Clinical Excellence
- Prize for Academic Excellence
- Esteemed peer prize
- GlaxoSmithKline Child Health Prize
- Wren Hoskyns prize (child health)
- Arthur Watts Prize in Clinical Methods
- The Reverend Derek Hole Prize in Cardiovascular Medicine
- John MacVicar Prize in Obstetrics & Gynaecology
- Sydney Brandon Prize
- John and Hilary Hearnshaw Diabetes Prize
- Elective Prizes (three)

All students in all Phases

- Noel Everson Surgical Prize
- Peter Bell Surgical Prize
- Aiden Halligan prize (voluntary work)
- Primary Care prize in the arts (3 prizes)

Note: The list of prizes and the criteria for the award of the prize is presently under review. Students will be informed of relevant prizes they can apply for and those linked to performance on the course. A separate document will be published in due course.
APPENDIX

Outcomes of the MBChB Course (taken from GMC Outcomes for Graduates 2015)

The doctor as a scholar and a scientist

The graduate will be able to apply to medical practice biomedical scientific principles, method and knowledge relating to: anatomy, biochemistry, cell biology, genetics, immunology, microbiology, molecular biology, nutrition, pathology, pharmacology and physiology. The graduate will be able to:

a) Explain normal human structure and functions.
b) Explain the scientific bases for common disease presentations.
c) Justify the selection of appropriate investigations for common clinical cases.
d) Explain the fundamental principles underlying such investigative techniques.
e) Select appropriate forms of management for common diseases, and ways of preventing common diseases, and explain their modes of action and their risks from first principles.
f) Demonstrate knowledge of drug actions: therapeutics and pharmacokinetics; drug side effects and interactions, including for multiple treatments, long-term conditions and non-prescribed medication; and also including effects on the population, such as the spread of antibiotic resistance.
g) Make accurate observations of clinical phenomena and appropriate critical analysis of clinical data.

Apply psychological principles, method and knowledge to medical practice.

a) Explain normal human behaviour at an individual level.
b) Discuss psychological concepts of health, illness and disease.
c) Apply theoretical frameworks of psychology to explain the varied responses of individuals, groups and societies to disease.
d) Explain psychological factors that contribute to illness, the course of the disease and the success of treatment.
e) Discuss psychological aspects of behavioural change and treatment compliance.
f) Discuss adaptation to major life changes, such as bereavement; comparing and contrasting the abnormal adjustments that might occur in these situations.
g) Identify appropriate strategies for managing patients with dependence issues and other demonstrations of self-harm.

Apply social science principles, method and knowledge to medical practice.

a) Explain normal human behaviour at a societal level.
b) Discuss sociological concepts of health, illness and disease.
c) Apply theoretical frameworks of sociology to explain the varied responses of individuals, groups and societies to disease.
d) Explain sociological factors that contribute to illness, the course of the disease and the success of treatment – including issues relating to health inequalities, the links between occupation and health and the effects of poverty and affluence.
e) Discuss sociological aspects of behavioural change and treatment compliance.

Apply to medical practice the principles, method and knowledge of population health and the improvement of health and healthcare.
a) Discuss basic principles of health improvement, including the wider determinants of health, health inequalities, health risks and disease surveillance.

b) Assess how health behaviours and outcomes are affected by the diversity of the patient population.

c) Describe measurement methods relevant to the improvement of clinical effectiveness and care.

d) Discuss the principles underlying the development of health and health service policy, including issues relating to health economics and equity, and clinical guidelines.

e) Explain and apply the basic principles of communicable disease control in hospital and community settings.

f) Evaluate and apply epidemiological data in managing healthcare for the individual and the community.

g) Recognise the role of environmental and occupational hazards in ill-health and discuss ways to mitigate their effects.

h) Discuss the role of nutrition in health.

i) Discuss the principles and application of primary, secondary and tertiary prevention of disease.

j) Discuss from a global perspective the determinants of health and disease and variations in healthcare delivery and medical practice.

Apply scientific method and approaches to medical research.

a) Critically appraise the results of relevant diagnostic, prognostic and treatment trials and other qualitative and quantitative studies as reported in the medical and scientific literature.

b) Formulate simple relevant research questions in biomedical science, psychosocial science or population science, and design appropriate studies or experiments to address the questions.

c) Apply findings from the literature to answer questions raised by specific clinical problems.

d) Understand the ethical and governance issues involved in medical research.

The doctor as a practitioner

The graduate will be able to carry out a consultation with a patient:

a) Take and record a patient’s medical history, including family and social history, talking to relatives or other carers where appropriate.

b) Elicit patients’ questions, their understanding of their condition and treatment options, and their views, concerns, values and preferences.

c) Perform a full physical examination.

d) Perform a mental-state examination.

e) Assess a patient’s capacity to make a particular decision in accordance with legal requirements and the GMC’s guidance.

f) Determine the extent to which patients want to be involved in decision-making about their care and treatment.

g) Provide explanation, advice, reassurance and support.

Diagnose and manage clinical presentations.

a) Interpret findings from the history, physical examination and mental-state examination, appreciating the importance of clinical, psychological, spiritual, religious, social and cultural factors.

b) Make an initial assessment of a patient’s problems and a differential diagnosis. Understand the processes by which doctors make and test a differential diagnosis.
c) Formulate a plan of investigation in partnership with the patient, obtaining informed consent as an essential part of this process.

d) Interpret the results of investigations, including growth charts, x-rays and the results of the diagnostic procedures in Appendix 1.

e) Synthesise a full assessment of the patient's problems and define the likely diagnosis or diagnoses.

f) Make clinical judgements and decisions, based on the available evidence, in conjunction with colleagues and as appropriate for the graduate's level of training and experience. This may include situations of uncertainty.

g) Formulate a plan for treatment, management and discharge, according to established principles and best evidence, in partnership with the patient, their carers, and other health professionals as appropriate. Respond to patients' concerns and preferences, obtain informed consent, and respect the rights of patients to reach decisions with their doctor about their treatment and care and to refuse or limit treatment.

h) Support patients in caring for themselves.

i) Identify the signs that suggest children or other vulnerable people may be suffering from abuse or neglect and know what action to take to safeguard their welfare.

j) Contribute to the care of patients and their families at the end of life, including management of symptoms, practical issues of law and certification, and effective communication and team-working.

Communicate effectively with patients and colleagues in a medical context.

a) Communicate clearly, sensitively and effectively with patients, their relatives or other carers, and colleagues from the medical and other professions, by listening, sharing and responding.

b) Communicate clearly, sensitively and effectively with individuals and groups regardless of their age, social, cultural or ethnic backgrounds or their disabilities, including when English is not the patient's first language.

c) Communicate by spoken, written and electronic methods (including medical records), and be aware of other methods of communication used by patients. The graduate should appreciate the significance of non-verbal communication in the medical consultation.

d) Communicate appropriately in difficult circumstances, such as when breaking bad news, and when discussing sensitive issues, such as alcohol consumption, smoking or obesity.

e) Communicate appropriately with difficult or violent patients.

f) Communicate appropriately with people with mental illness.

g) Communicate appropriately with vulnerable patients.

h) Communicate effectively in various roles, for example, as patient advocate, teacher, manager or improvement leader.

Provide immediate care in medical emergencies.

a) Assess and recognise the severity of a clinical presentation and a need for immediate emergency care.

b) Diagnose and manage acute medical emergencies.

c) Provide basic first aid.

d) Provide immediate life support.

e) Provide cardio-pulmonary resuscitation or direct other team members to carry out resuscitation.

Prescribe drugs safely, effectively and economically.

a) Establish an accurate drug history, covering both prescribed and other medication.
b) Plan appropriate drug therapy for common indications, including pain and distress.
c) Provide a safe and legal prescription.
d) Calculate appropriate drug doses and record the outcome accurately.
e) Provide patients with appropriate information about their medicines.
f) Access reliable information about medicines.
g) Detect and report adverse drug reactions.
h) Demonstrate awareness that many patients use complementary and alternative therapies, and awareness of the existence and range of these therapies, why patients use them, and how this might affect other types of treatment that patients are receiving.

Carry out practical procedures safely and effectively.
a) Be able to perform a range of diagnostic procedures, as listed in Appendix 1 and measure and record the findings.
b) Be able to perform a range of therapeutic procedures, as listed in Appendix 1.
c) Be able to demonstrate correct practice in general aspects of practical procedures, as listed in Appendix 1.

Use information effectively in a medical context.
a) Keep accurate, legible and complete clinical records.
b) Make effective use of computers and other information systems, including storing and retrieving information.
c) Keep to the requirements of confidentiality and data protection legislation and codes of practice in all dealings with information.
d) Access information sources and use the information in relation to patient care, health promotion, giving advice and information to patients, and research and education.
e) Apply the principles, method and knowledge of health informatics to medical practice.

The doctor as a professional
The graduate will be able to behave according to ethical and legal principles. The graduate will be able to:
a) Know about and keep to the GMC’s ethical guidance and standards including Good Medical Practice, the ‘Duties of a doctor registered with the GMC’ and supplementary ethical guidance which describe what is expected of all doctors registered with the GMC.
b) Demonstrate awareness of the clinical responsibilities and role of the doctor, making the care of the patient the first concern. Recognise the principles of patient-centred care, including self-care, and deal with patients’ healthcare needs in consultation with them and, where appropriate, their relatives or carers.
c) Be polite, considerate, trustworthy and honest, act with integrity, maintain confidentiality, respect patients’ dignity and privacy, and understand the importance of appropriate consent.
d) Respect all patients, colleagues and others regardless of their age, colour, culture, disability, ethnic or national origin, gender, lifestyle, marital or parental status, race, religion or beliefs, sex, sexual orientation, or social or economic status. Graduates will respect patients’ right to hold religious or other beliefs, and take these into account when relevant to treatment options.
e) Recognise the rights and the equal value of all people and how opportunities for some people may be restricted by others’ perceptions.
f) Understand and accept the legal, moral and ethical responsibilities involved in protecting and promoting the health of individual patients, their dependants and the public – including vulnerable groups such as children, older people, people with learning disabilities and people with mental illnesses.

g) Demonstrate knowledge of laws, and systems of professional regulation through the GMC and others, relevant to medical practice, including the ability to complete relevant certificates and legal documents and liaise with the coroner or procurator fiscal where appropriate.

Reflect, learn and teach others.

a) Acquire, assess, apply and integrate new knowledge, learn to adapt to changing circumstances and ensure that patients receive the highest level of professional care.

b) Establish the foundations for lifelong learning and continuing professional development, including a professional development portfolio containing reflections, achievements and learning needs.

c) Continually and systematically reflect on practice and, whenever necessary, translate that reflection into action, using improvement techniques and audit appropriately – for example, by critically appraising the prescribing of others.

d) Manage time and prioritise tasks, and work autonomously when necessary and appropriate.

e) Recognise own personal and professional limits and seek help from colleagues and supervisors when necessary.

f) Function effectively as a mentor and teacher including contributing to the appraisal, assessment and review of colleagues, giving effective feedback, and taking advantage of opportunities to develop these skills.

Learn and work effectively within a multi-professional team.

a) Understand and respect the roles and expertise of health and social care professionals in the context of working and learning as a multi-professional team.

b) Understand the contribution that effective interdisciplinary team-working makes to the delivery of safe and high-quality care.

c) Work with colleagues in ways that best serve the interests of patients, passing on information and handing over care, demonstrating flexibility, adaptability and a problem-solving approach.

d) Demonstrate ability to build team capacity and positive working relationships and undertake various team roles including leadership and the ability to accept leadership by others.

Protect patients and improve care.

a) Place patients’ needs and safety at the centre of the care process.

b) Deal effectively with uncertainty and change.

c) Understand the framework in which medicine is practised in the UK, including: the organisation, management and regulation of healthcare provision; the structures, functions and priorities of the NHS; and the roles of, and relationships between, the agencies and services involved in protecting and promoting individual and population health.

d) Promote, monitor and maintain health and safety in the clinical setting, understanding how errors can happen in practice, applying the principles of quality assurance, clinical governance and risk management to medical practice, and understanding responsibilities within the current systems for raising concerns about safety and quality.
e) Understand and have experience of the principles and methods of improvement, including audit, adverse incident reporting and quality improvement, and how to use the results of audit to improve practice.

f) Respond constructively to the outcomes of appraisals, performance reviews and assessments.

g) Demonstrate awareness of the role of doctors as managers, including seeking ways to continually improve the use and prioritisation of resources.

h) Understand the importance of, and the need to keep to, measures to prevent the spread of infection, and apply the principles of infection prevention and control.

i) Recognise own personal health needs, consult and follow the advice of a suitably qualified professional, and protect patients from any risk posed by own health.

j) Recognise the duty to take action if a colleague’s health, performance or conduct is putting patients at risk.

**Practical procedures for graduates**

**Diagnostic procedures**

1. **Measuring body temperature.** - Using an appropriate recording device
2. **Measuring pulse rate and blood pressure.** - Using manual techniques and automatic electronic devices
3. Trans-cutaneous monitoring of oxygen saturation. - Applying and talking readings from an electronic device which measures the amount of oxygen in a patient’s blood
4. Venepuncture. - Inserting a needle into a patient’s vein to take a sample of blood for testing or to give an injection into the vein.
5. **Managing blood samples correctly.** - Making sure that blood samples are placed in the correct containers, and that these are labelled correctly and sent to the laboratory promptly and in the correct way. Taking measures to prevent spilling and contamination.
6. **Taking blood cultures.** - Taking samples of venous blood to test for the growth of infectious organisms in the blood. Requires special blood containers and laboratory procedures.
7. **Measuring blood glucose.** - Measuring the concentration of glucose in the patient’s blood at the bedside, using appropriate equipment and interpreting the results.
8. **Managing an electrocardiograph (ECG) monitor.** - Setting up a continuous recording of the electrical activity of the heart. Ensuring the recorder is functioning correctly, and interpreting the tracing.
9. **Performing and interpreting a 12-lead electrocardiograph.** - Recording a full, detailed tracing of the electrical activity of the heart, using a (ECG) machine recorder (electrocardiograph). Interpreting the recording for signs of heart disease.
10. **Basic respiratory function tests.** - Carrying out basic tests to see how well the patient’s lungs are working (for example, how much air they can breathe out in one second).
11. **Urinalysis using Multistix.** - Testing a sample of urine for abnormal contents, such as blood or protein. The urine is applied to a plastic strip with chemicals which change colour in response to specific abnormalities.
12. **Advising patients on how to collect a mid-stream urine specimen.** - Obtaining a sample of urine from a patient, usually to check for the presence of infection, using a method which reduces the risk of contamination by skin bacteria.
13. **Taking nose, throat and skin swabs.** - Using the correct technique to apply sterile swabs to the nose, throat and skin.
14. **Nutritional assessment.** - Making an assessment of the patient’s state of nutrition. This includes an evaluation of their diet; their general physical condition; and measurement of height, weight and body mass index.
15. **Pregnancy testing** - Performing a test of the urine to detect hormones which indicate that the patient is pregnant.

**Therapeutic procedures**

1. **Administering oxygen.** - Allowing the patient to breathe a higher concentration of oxygen than normal, via a face mask or other equipment.
2. **Establishing peripheral intravenous access and setting up an infusion; use of infusion devices.** - Puncturing a patient’s vein in order to insert an indwelling plastic tube (known as a ‘cannula’), to allow fluids to be infused into the vein (a ‘drip’). Connecting the tube to a source of fluid. Appropriate choice of fluids and their doses. Correct use of electronic devices which drive and regulate the rate of fluid administration.
3. **Making up drugs for parenteral administration.** - Preparing medicines in a form suitable for injection into the patient’s vein. May involve adding the drug to a volume of fluid to make up the correct concentration for injection.
4. **Dosage and administration of insulin and use of sliding scales.** - Calculating how many units of insulin a patient requires, what strength of insulin solution to use, and how it should be given (for example, into the skin, or into a vein). Use of a ‘sliding scale’ which links the number of units to the patient’s blood glucose measurement at the time.
5. **Subcutaneous and intramuscular injections.** - Giving injections beneath the skin and into muscle.
6. **Blood transfusion.** - Following the correct procedures to give a transfusion of blood into the vein of a patient (including correct identification of the patient and checking blood groups). Observation for possible reactions to the transfusion, and actions if they occur.
7. **Male and female urinary catheterisation.** - Passing a tube into the urinary bladder to permit drainage of urine, in male and female patients.
8. **Instructing patients in the use of devices for inhaled medication.** - Providing instructions for patients about how to use inhalers correctly, for example, to treat asthma.
9. **Use of local anaesthetics.** - Using drugs which produce numbness and prevent pain, either applied directly to the skin or injected into skin or body tissues.
10. **Skin suturing.** - Repairing defects in the skin by inserting stitches (normally includes use of local anaesthetic).
11. **Wound care and basic wound dressing.** - Providing basic care of surgical or traumatic wounds and applying dressings appropriately.
12. **Correct techniques for ‘moving and handling’ including patients.** - Using, or directing other team members to use, approved methods for moving, lifting and handling people or objects, in the context of clinical care, using methods that avoid injury to patients, colleagues, or oneself.

**General aspects of practical procedures**

13. **Giving information about the procedure, obtaining and recording consent, and ensuring appropriate aftercare.** - Making sure that the patient is fully informed, agrees to the procedure being performed, and is cared for and watched appropriately after the procedure.
14. **Hand washing (including surgical ‘scrubbing up’).** - Following approved processes for cleaning hands before procedures or surgical operations.
15. **Use of personal protective equipment (gloves, gowns, masks).** - Making correct use of equipment designed to prevent the spread of body fluids or cross-infection between the operator and the patient.
16. **Infection control in relation to procedures.** - Taking all steps necessary to prevent the spread of infection before, during or after a procedure.
17. Safe disposal of clinical waste, needles and other ‘sharps’. - Ensuring that these materials are handled carefully and placed in a suitable container for disposal.