BBTS Specialist Certificate in Transfusion Science Practice
Guide for Prospective Students and their Employers

Overview

Award:	**BBTS Specialist Certificate in Transfusion Science Practice** *Accredited by The University of Manchester (45 level 7 / Master's level credits)*
Duration:	12 months (programme begins each May)
Delivery:	Distance-learning/ e-learning
Entry Requirements:	You *must*: • have a BSc in a relevant healthcare science or demonstrable equivalent ○ e.g. candidates with HCPC or ACSLM registration, but without a BSc, are deemed to have demonstrable equivalence • be working at practitioner level (NHS career framework grade 5 equivalent) or higher • be working in a transfusion laboratory environment during the programme of study • be a member of the BBTS If you do not meet these minimum requirements your application will be automatically rejected
How to Apply:	Applications are open once each year for 6 weeks. Next enrolment period: 1st Oct to 12th Nov 2017. Applications will not be considered outside these dates. *Your application must be supported by your laboratory manager for the duration of the programme.* Course begins: 18th May 2018; Examination May 2019 *Exact date to be confirmed*
Course Description:	This course is designed to provide you with a thorough grounding in the theory and practice of transfusion science as conducted within the modern transfusion science laboratory. It is • designed for UK Health and Care Professions Council (HCPC) registered Biomedical Scientists (BMS) working in transfusion science either in a blood establishment (blood centre) or a hospital transfusion laboratory. • recognised by NHS Trust Hospitals and the UK Blood Services: NHS Blood and Transplant, Scottish National Blood Transfusion Service, Welsh Blood Transfusion Service, Northern Ireland Blood Transfusion Service as supporting evidence of fitness to practice at 'specialist' level (NHS career framework grade 6 and above). • recommended by the UK Transfusion Laboratory Collaborative: Minimum standards for staff qualifications, training, competency and the use of information technology in hospital transfusion laboratories (Chaffe et al, Transfusion Medicine, 24 (6) 2014 for 'all lone-working staff whether working supervised or unsupervised'). Over the programme you will build and consolidate your core knowledge and understanding of transfusion science, while developing your analytical and practical skills required for data interpretation, critical thinking and provision of solutions to differing laboratory situations.
Fees:	Programme cost: £891 The fees are fully inclusive for the course tuition, learning materials and administration costs during your studies.
Contact:	Education Officer: Michaela Cheetham For all enquiries: Email: michaela.cheetham@bbts.org.uk or bbts@bbts.org.uk Telephone: 0161 232 7999

Introduction

The BBTS Specialist Certificate in Transfusion Science Practice is designed for UK Health and Care Professions Council (HCPC) registered Biomedical Scientists (BMS)* working in transfusion science either in a blood establishment (blood centre) or a hospital transfusion laboratory.

*** Note:**

- *Republic of Ireland Academy of Medical Laboratory Science (AMLS) registered Medical Scientists are also welcome to apply.*
- *Non-HCPC registered NHS employees working in transfusion science must be working at career grade 5 (or higher) to be eligible. This is typically equivalent to entry-level BMS grade.*
- *Applications from overseas scientists working in blood transfusion will be considered on a case-by-case basis but must also meet the following minimum eligibility criteria. Please note that this qualification is based on UK practices and guidelines.*

This qualification will provide you with evidence of specialist knowledge* in transfusion science, following HCPC registration at practitioner level, required to demonstrate your specialist and independent practice capabilities. It is accredited by the University of Manchester (45 level 7 credits).

**The BBTS Specialist Certificate is not a certificate of competence to practice; the assessment of competence remains the responsibility of your employer.*

This programme of study will build and consolidate your core knowledge and understanding of transfusion science, while developing your analytical and practical skills required for data interpretation, critical thinking and provision of solutions to differing laboratory situations, commensurate with the level of Specialist Practitioner in Transfusion Science (NHS career framework grade 6 and above).

Minimum eligibility criteria for all applicants

You must:

- have a BSc in a relevant healthcare science (or demonstrable equivalent)
    - candidates with HCPC or AMLS registration, but without a BSc, are deemed to have demonstrable equivalence
- be working at practitioner level (NHS career framework grade 5 equivalent) or higher
- be working in a transfusion laboratory environment during the programme of study*
- be a member of the BBTS on application and throughout the programme

And preferably have:

- previous experience of working in a transfusion laboratory or establishment at practitioner level (recommendation: minimum of 6 months)

**prospective applicants who will not be working in a transfusion environment during the programme will not normally be considered eligible. Individual requests may be taken under consideration.*

English Language Proficiency for International Applicants

Where English is an additional language you must provide the following test certificate(s):

- International English Language Testing System (IELTS).
  - Minimum Score: 7.0 with no element below 6.5

Or

- Test of English as a Foreign Language (TOEFL iBT)
  - Minimum score: 100/120
- TOEFL test scores undertaken in the United Kingdom are not accepted

All test certificates must be dated within 2 years of the date on which we receive your application

Exemption from language proficiency test
If you are a citizen of a relevant European State you do not need to provide proof of your English language proficiency. To be exempt from providing proof of English language competence you must provide evidence that you are a citizen of a relevant European State. This will usually be a **certified** copy of your passport or a **certified** copy of your national identity card.
The relevant European States are:
Austria, Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Liechtenstein, Lithuania, Luxembourg, Malta, The Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland and United Kingdom.

Units and Descriptors

The course comprises 2 units studied over a 12 month programme;

- Unit 1; compulsory core transfusion knowledge
- Plus your chosen specialist unit; unit 2 or unit 3
- To successfully exit the programme with 45 level 7 credits you need to complete unit 1 plus unit 2 or unit 3

Unit 1: Transfusion Science Practice (Core: 30 credits)
This unit will provide you with knowledge and understanding of a broad range of topics within transfusion science. You will become familiar with methods and strategies to investigate, and gain experience of the interpretation of routine patient and blood donation related results. You will be expected to relate this knowledge to the workplace as you learn to perform relevant laboratory methods.

Unit 2: Immunohaematology (Optional specialism: 15 credits)
This unit will provide you with knowledge and understanding of patient-related transfusion science practice, management of patients requiring blood transfusions and appropriate investigations. You will become familiar with methods and strategies to investigate and gain experience of the interpretation of complex patient related results. You will be expected to relate this knowledge to the workplace as you learn to perform relevant laboratory methods.

Unit 3: Donation Testing and Component Processing (Optional specialism: 15 credits)
This unit will provide you with knowledge and understanding of blood donation-related transfusion science practice. You will understand the processing and testing requirements for blood donations. You will become familiar with methods and strategies to investigate and gain experience of the interpretation of complex blood donation related results. You will be expected to relate this knowledge to the workplace as you learn to perform relevant laboratory methods.

See Appendix 1 for full unit descriptions

Programme of Study

The course is delivered via a 12 month structured online curriculum of distance learning through the BBTS website. The timetable is as follows:

Start: 18th May 2018

Induction Day

A face-to-face Induction Day in Manchester marks the start of the programme. If you are unable to attend, all relevant information will be made available online shortly after the event.

End: 2nd or 3rd Saturday in May 2019

Examination

The final examination marks the end of the programme. This takes place in **Manchester***. The date will be confirmed and all students informed in August 2018.

The examination takes place over a full day

- Paper 1 begins at 10 am (with entry no later than 9.45 am)
- Finish time is 3 pm.

**the centralised examination venue and date of exam are non-negotiable*

Programme running order:

Learning materials are normally released on the second or third Wednesday of each month.
All materials will remain available to review, once published, until the examination date.

Timetable

May:	Immunology (back to basics)/ Antigen-antibody reactions
June:	Reagents, controls and basic techniques
July:	Antibody mediated red cell destruction/ Basic genetics and transfusion terminology
August:	The ABO blood group system
September:	The Rh blood group System
October:	Other blood group systems/ Antibody screening
November:	Antibody identification/ Pre-transfusion testing
December:	Pre-transfusion testing (continued)/ Hazards of transfusion
January:	Blood components/ Blood donation testing (immunohaematology)
February:	Blood donation testing (microbiology)/ Antenatal serology
March:	Quality/ Revision
April:	Revision/ Exam practice questions

How will I study?

To gain 45 level 7 credits students are expected to participate in 10 hours of scheduled learning activities per credit (i.e. 450 hours in total). This figure is calculated based on the average time a learner takes to achieve the specified learning outcomes.

Examples of learning activities include taught sessions, independent and self-directed study, and work-based events. *You should not expect to simply read the text book and be able to pass the examination.*

To be successful, **active** participation in the programme is required. This is monitored during the 12 month programme through the **compulsory discussion activities** (CDA) posted on the online student forum.

The following resources are supplied for this programme:

- Online presentations
  - Including self-check quizzes
- Online compulsory discussion activities (CDAs)
  - *You must complete 75% of the CDAs to be eligible to sit the exam*
  - You can also use the forum to ask, discuss and answer any questions with your fellow students
- Essential, directed and recommended reading
  - The course text book is your main reference
  - Complete the action/ reflection points and end of chapter questions/ assignments
- Revision; multiple choice quizzes/ mini-assessments to reflect exam layout

Learning at work while undertaking this programme

One aim of this programme is to link your underpinning and specialist knowledge with your everyday transfusion practice. In addition, it will expand and deepen your understanding of those aspects of transfusion science with which you may be less accustomed. It is expected that you will use your experiences of routine working in either a hospital transfusion laboratory or blood services laboratory (or both) during this programme to help you consolidate your learning.

As each person's experience in blood transfusion practice is different, your particular capabilities and learning requirements will vary. BBTS therefore encourages you to plan your learning over the coming year with your work-place training officer and/ or mentor. During the programme you will be directed to complete some specific action points at your workplace.

It is highly recommended that you arrange the following:

- An initial meeting with your training officer/ mentor before you begin your studies
  - To highlight any work-based development needs
  - To arrange any additional training or laboratory experience that may help with the programme
- Following this, regular update and progress report meetings are highly recommended
  - e.g. once per month
  - to help keep you on target with your studying

Please note: BBTS is not responsible for provision of a work-place training officer or mentor.

All types of workplace activities can be used as a source of material to supplement your learning. This may include (this list is not exhaustive):

- Regular 'on-the-bench' duties and investigations
- Following procedures and guidelines
- Referring to procedures and guidelines
- Writing, reviewing and validating standard operating procedures
- Unusual or complex patient and/ or donor investigations
- Internal and external quality assessment scheme participation
- Liaising with other departments and services (e.g. patient blood management team, blood issuing department, patient reference laboratory, etc.)
- Shadowing a colleague (e.g. to learn a new task)
- Validation/ evaluation of equipment and reagents
- Involvement in quality incident reporting
- Involvement with departmental audits

In addition, you will find it beneficial to engage with your own local experts, colleagues and peers in your workplace during your studies. Your attendance at local and national CPD events is encouraged where possible (e.g. NEQAS meetings, Regional Transfusion Committee education days, user groups, journal clubs, conferences, special interest groups etc.). Some blood establishments offer short courses in practical transfusion that you may find useful, however it is not a requirement of this course that you attend such training.

Who will be teaching me?

All course materials are designed and delivered by a team of BBTS members with specialist expertise in transfusion science practice, education and training.

How will I be assessed?

There are a series of self-assessments, discussion and review activities during the 12 month programme designed to prepare you for the final examination.

The final assessment is by examination. It takes place on one day and comprises:

	Compulsory			Specialism Option (B *or* C)	
Paper	**1**	**2**	**3A**	**3B** Immuno-haematology	**3C** Donation Testing and Components Processing
Question Type	Multi-Choice	Short answer	Data Interpretation	Data and Case Studies	Data and Case Studies
Duration	60 mins	60 mins	45 mins*	75 mins*	75 mins*
Weighting	25%	25%	20%	30%	30%

** Paper 3: duration is 2 hours overall with a compulsory part A (for all students to answer) with optional specialisms part B (immunohaematology students) or part C (donation testing and components processing).*

Grading criteria is outlined in the terms and conditions (appendix 2).

Student Representative

As part of the Specialist Certificate in Transfusion Science Practice programme we encourage one individual to act as student representative for the cohort.

This is a voluntary role and great opportunity to get involved with BBTS, help your fellow students and shape the future delivery of the programme. It's also good for your CPD!

Expectations

The main role is to be an additional* contact for any student feedback and/ or concerns. You will be required to

- attend the Programme Committee meetings
  - 1-2 face to face and 1-2 teleconferences over the programme year
  - Make students' views/ feedback known
  - Reasonable travel expenses are paid
- feedback responses from the BBTS Programme Committee to the student cohort

*we encourage and welcome direct feedback and contact from all our students at any time but recognise that sometimes students would rather give this via a third independent party.

Feedback

We will seek formal student feedback at different points over the programme via anonymous questionnaires. The purpose of this is to check how you're getting on and for you to comment on the programme and your experience so far. Additionally, you may feedback individually to us at any time you wish; directly at bbts@bbts.org.uk or via your student representative.

We will formally ask for your anonymous feedback via questionnaire at the following intervals

- Post Induction
- Mid programme (usually in August and February)
- Post-examination/ pre-results

All results and responses will be published in the student area for you to view. We will also add comments from previous cohorts that you may find useful.

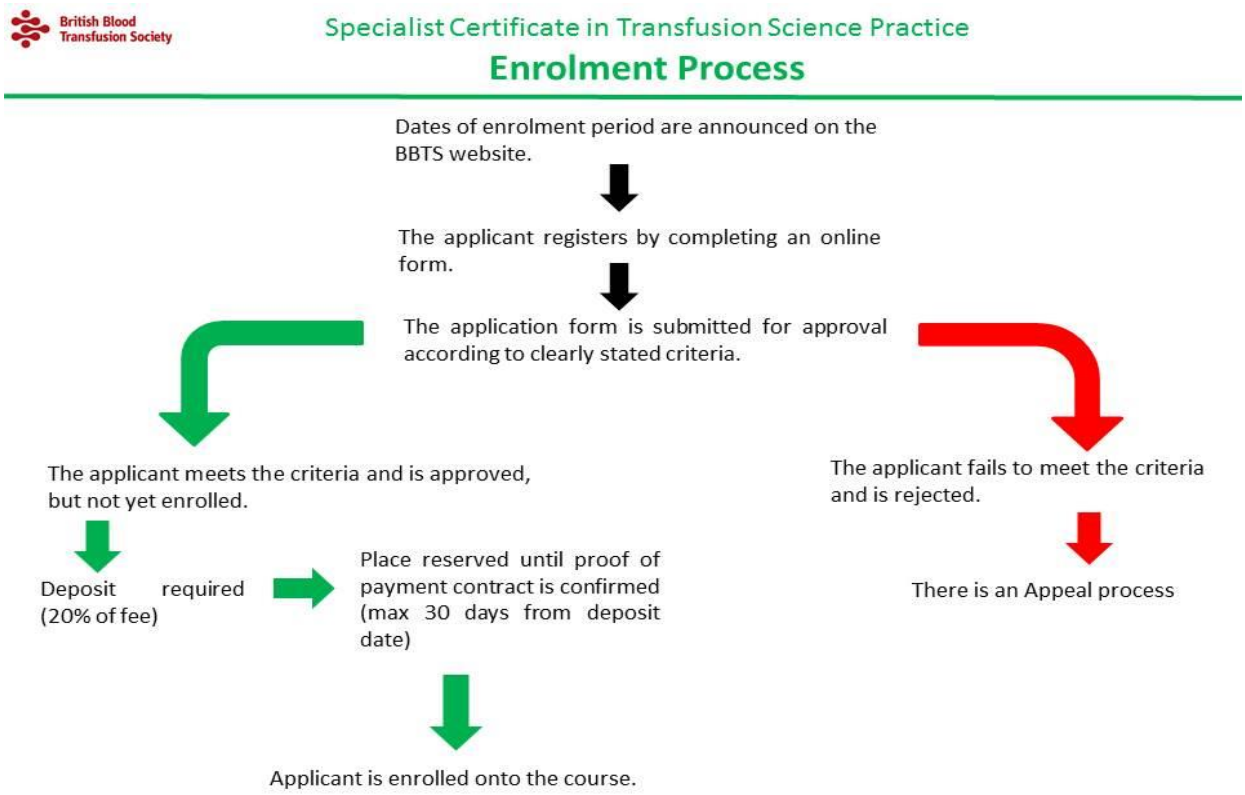
Your supporting manager will also be asked for their feedback (by questionnaire) following issue of the cohort's results.

The Enrolment Process

Enrolment for this programme is between 1st October 17 to 12th Nov 17 (6 weeks). A link to the application form is provided on the BBTS website. Applications outside this time will not be considered.

All applications are checked against the eligibility criteria for approval. If you meet the criteria, you will be approved and a place is reserved/ provisional until your deposit is received. To be fully enrolled you are required to pay a deposit of 20% of the full fee by 31.12.17. Non-payment of the deposit may result in your place being rescinded.

NB. If you do not meet the minimum eligibility criteria stated you will not be approved. You may appeal this decision or request feedback/advice about reapplying in the future. If required, please email your appeal or request to the BBTS Education Officer at michaela.cheetham@bbts.org.uk. Appeals are dealt with by the Chief Examiner. The process may take several weeks before a response is received.



Fees and Finance

The full cost of the programme is **£891**. The deposit is due by 31.12.17. See appendix 2 (points 47 – 51) for full conditions.

Please note:

- Non-payment/ late payment of course and/or BBTS membership fees will result in your suspension from the programme
- Persistent non-payment of fees may result in your course place being rescinded

Course Fees include

- a personal copy of the course text book 'Introduction to Transfusion Science Practice'
- access to student-only online resources
- the examination fee
- one resit fee (if required)

Additional fees:

- All students must be BBTS members
  - on application
  - throughout the programme (including any deferral period)
  - at examination
- All travel and accommodation expenses associated with the course are the responsibility of the student

Points of Contact

Role	Named Contact	Email Contact	Postal Address/Tel:
Education Officer	Michaela Cheetham	michaela.cheetham@bbts.org.uk	BBTS Enterprise House Manchester Science Park Lloyd Street North Manchester M15 6SE 0161 232 7999
Chief Examiner	Robina Qureshi	bbts@bbts.org.uk	
External Examiner*	Jenny White	bbts@bbts.org.uk	
Programme Director (current)	Johnathan Wallis (BBTS President)	bbts@bbts.org.uk	
Programme Director (from October 2017)	Bill Chaffe (Current BBTS President Elect)	bbts@bbts.org.uk	
Academic Advisor (University of Manchester)	Professor Phil Padfield	bbts@bbts.org.uk Any relevant queries will be forwarded on	

*Please note that it is inappropriate for students/ employers to make direct contact with the External Examiner under any circumstances.

If you are unsure of any of the information provided, or have any other queries, please contact the Education Officer at michaela.cheetham@bbts.org.uk

Appendix 1: Unit Descriptors

Unit 1: Transfusion Science Practice (Core: 30 credits)

This unit will provide you with knowledge and understanding of a broad range of topics within transfusion science. You will become familiar with methods and strategies to investigate, and gain experience of the interpretation of, routine patient and blood donation related results. You will be expected to relate this knowledge to the workplace as you learn to perform relevant laboratory methods.

Indicative Content

In this unit, you will learn about:

- Human Immune Response with regard to blood groups and transfusion
- Major blood group systems
- Clinical Significance of blood group antibodies
- Basic overview of haemolytic disease of the fetus/ newborn with respect to red cell antibodies
- Processing, testing and issuing of blood components (including the selection of blood donors)
- Pre-transfusion testing undertaken in UK transfusion laboratories
- Hazards associated with transfusion of blood components and investigative/ preventative measures (including haemovigilance)
- Quality Management Systems (including Quality Assurance and Quality Control in the transfusion laboratory setting)
- British Committee for Standards in Haematology (BCSH) guidelines for pre-transfusion compatibility procedures in blood transfusion laboratories
- Guidelines for the Blood Transfusion Services in the UK, European Blood Safety Directives, Blood Safety and Quality Regulations

Learning Outcomes

You will be expected to:

1. Determine, explain and classify antibody production with respect to blood group systems. Compare and contrast the major blood group antibodies.
2. Describe, explain and classify antibody– antigen reactions, the classical complement cascade and antibody-mediated red cell destruction. Examine and categorise causes of intravascular and extravascular red cell destruction.
3. Describe, explain and categorise the key features of the ABO, Rh and other major blood group systems (Kell, Duffy, Kidd, MNS, Lewis, Lutheran and P1PK)
4. Describe, explain, demonstrate, interpret and classify automated and manual serological laboratory tests performed in blood transfusion (to include patients and donors).
5. Examine and solve anomalous serological results for a range of laboratory tests
6. Describe, explain, justify and contrast the similarities and differences between patient-related and blood donor-related serological testing
7. Explain, determine and prioritise the principles and practice of Quality Management Systems including quality assurance and quality control in blood transfusion laboratories.
8. Determine, explain and predict the hazards associated with various aspects of blood transfusion. Examine the operation of the haemovigilance scheme in the UK
9. Describe, categorise and explain donor selection criteria in the UK
10. Describe, categorise and explain processing, testing, storage and specification criteria and issuing of routine blood components supplied by the UK blood services
11. Describe, explain, categorise and investigate the mechanism of haemolytic disease of the fetus/ newborn. Justify routine antenatal testing requirements

Unit 2: Immunohaematology (Optional specialism: 15 credits)

This unit will provide you with knowledge and understanding of patient-related transfusion science practice, management of patients requiring blood transfusions and appropriate investigations. You will become familiar with methods and strategies to investigate and gain experience of the interpretation of complex patient related results. You will be expected to relate this knowledge to the workplace as you learn to perform relevant laboratory methods.

Indicative Content

In this unit you will learn

- Antibody screening, identification, crossmatching and red blood cell selection (including special requirements) in pre-transfusion testing
- Red cell antibody monitoring and blood provision in haemolytic disease of the fetus/ newborn; BCSH guidelines for blood grouping in pregnancy and antibody testing in pregnancy
- Blood group serological reactions in Autoimmune haemolytic anaemia
- Blood group serological reactions in a suspected transfusion reaction
- BCSH guidelines on the administration of blood components
- BCSH guidelines for the estimation of Fetomaternal Haemorrhage
- BCSH guidelines for the use of fresh-frozen plasma, cryoprecipitate and cryosupernatant
- BCSH guidelines for the use of irradiated blood components
- BCSH guidelines for neonates and older children
- BCSH guidelines for the specification and use of information technology (IT) systems in blood transfusion practice

Learning Outcomes

You will be expected to:

1. Outline and analyse variants associated with the ABO and Rh blood group systems. Determine and describe the implications for patients
2. Determine, explain, formulate and interpret the investigation of complex serological reactions, including recommendations for resolving unexpected anomalies, in patient testing.
3. Determine, describe and explain the design, operation and performance of serological techniques used in the investigation and management of haemolytic disease of the fetus/ newborn. Categorise and recommend management strategies for a range of blood group antibodies.
4. Determine and explain the serological problems associated with autoantibodies with respect to blood transfusion
5. Determine and describe the design, operation and performance of serological techniques used in the investigation and management of autoimmune haemolytic anaemia. Categorise and recommend management strategies for blood provision for patients with cold and warm autoantibodies.
6. Determine, explain and interpret the investigation of a suspected transfusion reaction. Discuss the possible causes.
7. Explain and categorise the principles and practice of, and determine between, serological and electronic issue of blood components
8. Discuss and categorise the principles and mechanisms of, and recommend, blood component selection for a range of patients (including fetus/ neonate, haematological, BMT, HSCT, rare blood groups, pregnant women, immunocompromised, children, transfusion-dependent)

Unit 3: Donation Testing and Component Processing (Optional specialism: 15 credits)
This unit will provide you with knowledge and understanding of blood donation-related transfusion science practice. You will understand the processing and testing requirements for blood donations. You will become familiar with methods and strategies to investigate and gain experience of the interpretation of complex blood donation related results. You will be expected to relate this knowledge to the workplace as you learn to perform relevant laboratory methods.

Indicative Content
In this unit you will learn about:
- Preparation and quality monitoring of blood components
- Preparation and specifications of blood components with special requirements
- Testing requirements for blood donations in the UK
- Transfusion transmitted infections with respect to blood donation
- European Blood Safety Directives and Blood Safety and Quality Regulations
- Guidelines for the Blood Transfusion Services in the UK
- BCSH guidelines for the use of irradiated blood components
- BCSH guidelines for neonates and older children

Learning Outcomes
You will be expected to:
1. Determine, explain and discuss the design, operation and performance of processing techniques for blood components
2. Determine, explain and categorise additional processing and testing requirements for non-routine blood components
3. Identify, explain and categorise quality monitoring procedures applied to blood components
4. Determine, describe and categorise the design, operation and performance of automated and semi-automated testing technology used in blood donor testing.
5. Determine, explain, formulate and interpret the investigation of complex serological reactions, including recommendations for resolving unexpected anomalies, in donor testing
6. Describe and categorise the aetiology of transfusion transmitted infections. Discuss and recommend investigations for a range of transfusion transmitted infections.
7. Determine, describe and explain component validation, specification and labelling criteria

Generic Learning Outcomes (applicable to all units)

Intellectual skills
You will be expected to:
1. Critically analyse scientific data
2. Evaluate results commonly encountered in blood transfusion laboratories
3. Apply knowledge of transfusion science to address specific laboratory problems

Practical skills
You will be expected to:
1. Present information clearly in the form of verbal and written reports.
2. Communicate complex ideas and arguments in a clear and concise and effective manner.

Transferable skills and personal qualities
You will be expected to:

1. Present complex ideas in simple terms in written format.
2. Consistently operate within sphere of personal competence and level of authority.
3. Select and apply appropriate analysis or assessment techniques and tools.
4. Actively seek accurate and validated information from all available sources.
5. Evaluate a wide range of data to assist with judgements and decision making.
6. Interpret data and convert into knowledge for use in the clinical context of individual and groups of patients and donors.
7. Work in partnership with colleagues, other professionals, patients and their carers to maximise patient care.

Appendix 2: Terms and Conditions for the BBTS Specialist Certificate in Transfusion Science Practice

Please read the terms and conditions carefully. If required, additional clarification on any of the rules may be obtained by contacting the BBTS Office.

General

1. The BBTS Specialist Certificate in Transfusion Science Practice is overseen by the Professional Affairs and Education Committee (PAEC), who act as the exam board and approve and appoint the Chief Examiner.
2. The BBTS Specialist Certificate in Transfusion Science Practice is accredited by the University of Manchester and is equivalent to 45 level 7 points (Credit Accumulation and Transfer Scheme, CATS).
3. The course fees include the study book, access to the BBTS virtual learning environment, guided study programme, additional course materials, examination fees and certificate.
4. Applicants must be a member of the BBTS. Membership must be valid at the time of enrolment and continuous for the duration of the course and any re-sit period. **BBTS membership fees are not included in the course fees.**
5. Travel to the exam centre and any associated costs remain the responsibility of the student.
6. The format to the examination / assessment might vary but due notice will be given to applicants of such changes.
7. Applicants are automatically registered for the exam at the point of enrolment. This is non-negotiable.
8. The course begins each May and is of 12 months duration.
9. Due to the nature of the online resources and activities, applicants *must* have access to a reliable internet source.
   - BBTS cannot be held responsible for inability to view online resources due to inconsistent access to the internet.
10. BBTS reserves the right to rescind places/withdraw approved students from the course if fees/membership fees remain unpaid (without prior notification/discussion with the BBTS office) and if there is no response to repeated correspondence.

Eligibility

11. The BBTS Specialist Certificate in Transfusion Science Practice is designed for UK Health and Care Professions Council (HCPC) registered Biomedical Scientists (BMS) working in transfusion science either in a blood establishment (blood centre) or a hospital transfusion laboratory.
12. Republic of Ireland Academy of Medical Laboratory Science (AMLS) registered Medical Scientists are also welcome to apply
13. Non-HCPC registered NHS employees working in transfusion science must be working at career grade 5 (or higher) to be eligible. This is typically equivalent to entry-level BMS grade.
14. Applications from overseas scientists working in blood transfusion will be considered on a case-by-case basis but must also meet the minimum eligibility criteria. *Please note that this qualification is based on UK practices and guidelines*.
15. <u>All</u> applicants must:
    - have a BSc in a relevant healthcare science or demonstrable equivalent
        - e.g. candidates with HCPC or ACSLM registration, but without a BSc, are deemed to have demonstrable equivalence
    - be working at practitioner level (NHS career framework grade 5 equivalent) or higher
    - be working in a transfusion laboratory environment during the programme of study
        - applicants not working in a transfusion environment are not eligible for this programme
    - be a member of the BBTS
        - on application

- throughout the programme (including any deferral period)
- at examination

And preferably have:

- previous experience of working in a transfusion laboratory or establishment at practitioner level (recommendation: minimum of 6 months)

16. Overseas transfusion scientists are required to submit a statement of practice as part of their application. This must include reasons for applying and a detailed description of transfusion science practice experience and duties currently, and previously, undertaken.
    - Such applications will be considered by the Chief Examiner who may refer to other members of PAEC for further evaluation.
    - **English Language Proficiency for International Applicants**
        - Where English is an additional language you must provide the following test certificate(s):
            - International English Language Testing System (IELTS).
                - Minimum Score: 7.0 with no element below 6.5

    Or

            - Test of English as a Foreign Language (TOEFL iBT)
                - Minimum score: 100/120
            - TOEFL test scores undertaken in the United Kingdom are not accepted

    All test certificates must be dated within 2 years of the date on which we receive your application

Applying for the Programme

17. Registration for the Specialist Certificate in Transfusion Science Practice is through the BBTS website.
18. Enrolment is open for a period of 6 weeks once a year. Specific dates will be announced via the BBTS website.
19. The application form is provided on the BBTS website which will clearly state the eligibility requirements.
20. All applicants are checked against the eligibility criteria for approval.
21. If the applicant meets the criteria, they will be approved though not yet enrolled.
    - The applicant is required to pay a deposit of 20% of the full fee during the application process.
    - The deposit ***must*** be made by the individual applicant, regardless of whether their employer will be fully funding the programme. This will be requested by email, once the application has been approved.
    - A provisional place will be allocated until a proof of full payment contract is confirmed.
    - Once received, the applicant is fully enrolled onto the course.
22. If the applicant fails to meet the criteria stated in the application form, he/she will not be approved.
23. All applications must be supported by your laboratory manager. Manager confirmation will be sought by BBTS.
24. Places on the programme are allocated on a case by case basis, dependent upon fulfilling the enrolment criteria, funding and availability.

Grading, Marking and Results

25. The papers are weighted as follows:
    - Paper 1 multiple choice questions 25%
    - Paper 2 short answer questions 25%
    - Paper 3 part A data interpretation 20%
    - Paper 3 part B or C data interpretation and case scenarios 30%
26. All papers are double-blind marked by two independent examiners to an approved marking scheme and schedule.
27. The two scores are blind collated, reviewed, weighting adjusted and averaged by the chief examiner. Candidates will receive average scores for each paper and an overall average final result.

28. The overall pass mark for this qualification is 60% with a minimum of 40% in each individual paper.
29. Grades are awarded as shown in the table:

Final overall percentage score	Grade awarded	Additional information
≥75 %	Distinction	Must achieve a minimum of 60% in each of the papers
60-74.4 %	Pass	N/A
57.5 – 59.4 %	Borderline	A third independent review is triggered
<57.5	Fail	N/A
N/A	Automatic Fail	<40% in *any* one paper All papers will be marked

30. Where the outcome is a borderline result the exam papers will be reviewed by a third independent marker, appointed by the Chief Examiner. The decision of this third examiner will be final.
31. Candidates will be informed of their results by post within 8-10 weeks following the examination date. Successful candidates will receive their BBTS certificate and university transcripts. *Results will not be available before 8 weeks following the examination date.*
32. A list of successful candidates will be published in the exam report available in the BBTS publication Bloodlines.

Feedback

33. A performance breakdown of each programme cohort will be prepared by the Chief Examiner for the PAEC. This will be published in Bloodlines.
34. Individual written feedback on examination performance can be requested. Feedback requests must be received in writing by the BBTS office within four weeks of the examination results being published (issue date of the candidate result letter). Email is accepted as 'in writing'.
35. Students who have failed their first attempt cannot receive feedback on specific aspects of their examination performance or individual exam questions.
36. Examination papers remain the property of the BBTS and will not be returned to candidates, even if feedback has been requested.

Student participation, deferrals and non-attendees

37. Student participation in online activities will be monitored throughout the programme.
38. Students must complete 75% of the online compulsory discussion activities to be eligible to sit the examination.
    - This is non-negotiable
39. Deferral of the final examination or early withdrawal from the programme may be possible dependent upon extenuating circumstances (see below). You may be able to:
    - Defer your first examination for 6 months (November) or 12 months (May)
        - Your access to the student area will continue (conditional upon active BBTS Membership status)
        - Deferral beyond this time would require you to restart the programme
        - The required compulsory discussion activities must be completed within the original programme schedule
    - Defer your studies to the following cohort
        - This requires you to restart the programme
    - Withdraw from the programme
        - Refund of fees is subject to conditions outlined in the Fees and Finance section

BBTS explanation/ application of extenuating circumstances

Applications for extenuating circumstances must be made at the earliest opportunity and before the date of examination (where possible). Without exception, you will need to complete and submit the BBTS 'Extenuating Circumstances Application Form (ECAF1)'. You can request this form from bbts@bbts.org.uk

BBTS defines extenuating circumstances as '**circumstances which are beyond the control of the candidate, which could not reasonably have been foreseen or prevented by the candidate and which would substantially impact on a candidate's performance in assessment**'.

The grounds on which extenuating circumstances can be claimed are normally limited to

- a serious illness which would detrimentally affect your performance
  - on the day of the exam
  - in the revision period leading to the exam
- the death of a close family member or personal friend which would detrimentally affect your performance
  - normally in the period leading up to the date of the examination
- other serious circumstances beyond your control, which could not have been foreseen or prevented and which would detrimentally affect your performance

40. Evidence is required with independent verification for all claims i.e. a medical note and/ or note from your employer.
41. Your BBTS membership must be maintained throughout your deferral period i.e. a lapse in membership or non-payment of fees may result in your place being rescinded.
42. You may **not** claim extenuating circumstances on the basis that your performance has been or will be affected by family, financial or other lifestyle problems other than those listed above.
    - As the Specialist Certificate is a distance learning programme, it is expected that you to plan your work in order that you allow sufficient time to cope with the demands of employment, home life, study workloads and commitments.
    - Extenuating circumstances will **not** normally be granted for any of the following reasons (this list is not exhaustive)
      - Study related circumstances
        - Inadequate planning, organisation or management
        - Timetabling of examinations
        - Misreading of assessment dates and times
        - Personal computer or printer problems
        - Difficulty with the English language
      - Personal illness or disability where reasonable adjustments are already in place
        - Specific requirements must be highlighted to BBTS at application (if known) or as soon as diagnosed (if new)
        - A disability or long-term medical condition cannot be taken into account after the examination papers have been marked
      - Minor illnesses/ injuries e.g.
        - Cold, sore throat, cough
        - Hay fever
        - Sprains (other than in the writing hand /arm)
        - Accidents / illness affecting relatives or friends (unless serious or if the student is the sole carer)
      - Normal examination stress or anxiety
      - Non serious domestic or personal disruptions

    - Holidays
    - Social occasions (e.g. weddings, christenings, religious celebrations)
    - Moving house
    - Financial difficulties
    - Normal work patterns and pressures of employment
    - Transport problems
    - Change of job
  - Pregnancy (unless unexpected complications occur)
    - It is expected that you inform BBTS as soon as possible of your pregnancy and expected date of delivery so reasonable adjustments can be made (where necessary/ possible)

43. Candidates who fail to attend the exam without appropriate notification* and permission from BBTS will not be:
    - Eligible for any refund of fees
    - Eligible to attend the re-sit examination

    *If you experience extenuating circumstances immediately prior to the examination (e.g. the evening before/morning of the examination) it is recognised that you may not be able to contact BBTS office staff until after the examination. Under these conditions it is expected that you contact the BBTS office by telephone at the earliest opportunity. You will be asked to complete and submit the written application for extenuating circumstances as soon as possible.

Appeals and Re-sits

44. All appeals must be made in writing to the BBTS Office within four weeks of the results being published (issue date of the candidate result letter).
    - Email is accepted as 'in writing'.
    - Details of the reason for the appeal must be given. These will be forwarded to the Chief Examiner, then if necessary, to the Chair of PAEC for resolution.
    - Final appeals may be made to the President of the BBTS, or an independent person holding a senior position within the Society (nominated by the President).
    - Requests for re-marking of papers will be considered by PAEC and subject to a charge.
      - Borderline candidate papers are automatically reviewed by a third marker and are therefore not eligible for this service.
45. Exam papers and scripts will be retained by the BBTS for a period of no longer than 24 months after which they will be disposed of in a secure manner. Digital records of marking scripts will be retained.
46. Candidates who have failed the examination can re-sit once.
    - If you fail the examination you will be automatically enrolled for the resit examination in November
      - subject to email confirmation of your intention to resit
    - *You may only resit once*
      - There is no fee for this
    - You may defer this *once* to the following May (extenuating circumstances provided)
    - Students who have passed cannot resit the exam in an attempt to attain a better mark

Fees and Finance

47. The full cost of the programme is £891. This includes the cost of the course text book, access to online resources, examination fee and one potential re-sit fee.
48. You must keep up your BBTS membership for the duration of the programme (including examination)
49. The available finance options are as follows:

Payment Options	Self-funded					Employer-funded		
	20% Deposit	Instalment 1	Instalment 2*	Instalment 3*	Total payment	20% Deposit^	Balance	Total payment
Option 1	£178.20	£249.48	£249.48	£249.48	£926.64*	£178.20	£712.80	£891
Option 2	£178.20	£712.80	N/A	N/A	£891			
Due Date	31.12.17	18.05.18	31.07.18	31.10.18		31.12.17	31.03.18	

* *payment by option 1 is subject to an administration charge*

^ the deposit must be paid by the applicant; employer-funded applicants must claim the deposit back from their employer

50. The balance instalment(s) is payable by debit/ credit card or cheque by the due dates (shown in the table)
    - Non-payment/ late payment of course *and/or BBTS membership fees* will result in suspension from the programme
        - This includes any delayed payment by your employer
        - Online access will be suspended until payment is received
    - Persistent non-payment of any fees may result in your place being rescinded
51. Programme Withdrawal Refund Policy:
    - Deposit Payments are non-refundable under <u>all</u> circumstances
    - Refunds are not given to any individual who withdraws from the course from week 23 onwards

    Where extenuating circumstances criteria have been met the following refund options may be available to you dependent on your payment option:
    - *Payment Option 1*
        - Any instalment payments to date (i.e. at the time of withdrawal) will not be refunded.
        - You will not be pursued for any instalments due after your withdrawal date.
    - *Payment Option 2:* The following applies to individuals or employers who have paid the balance in full at the time of withdrawal
        - An individual who withdraws from the course prior to the course start date may receive a refund to the maximum of £712.80
        - Individuals who withdraw from the course in week 1 to week 14 inclusive may receive a refund to a maximum of £475.20
        - Individuals who withdraw from the course in week 15 to week 22 inclusive may receive a refund to a maximum of £237.60

Bribery Act

52. Students who are receiving the Services under this Agreement, shall:
    - comply with all applicable laws, statutes, regulations and sanctions relating to anti-bribery and anti-corruption, including but not limited to the Bribery Act 2010 and any guidance provided from time to time;
    - comply with any policies and procedures relating to anti-bribery and anti-corruption which are provided;
    - not engage in any activity, practice or conduct which would constitute an offence under sections 1,2 or 6 of the Bribery Act 2010 if such activity, practice or conduct had been carried out in the United Kingdom;
    - promptly report to the BBTS any request or demand for any undue financial or other advantage of any kind received in connection with the performance of this Agreement.