



**NY600A16**  
**Senior Technicians**  
**Accredited Co-Leaders in**  
**Science**

**Participant**  
**Handbook 2016-17**

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## Section 1: Welcome

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### Welcome to the National STEM Learning Centre

Dear participant,

Welcome to the Senior Technicians Accredited Co-leaders in Science course at the National STEM Learning Centre. We believe a quality education system depends on the quality of its teachers, and we are delighted that you have chosen to further your education with us.

STEM Learning provides inspirational and innovative professional development for STEM teachers, technicians, lecturers and teaching assistants from across the UK. The £11m purpose-built Centre, situated at the University of York, features the highest specification teaching rooms and laboratories and the National STEM Resource Centre, which houses the country's largest collection of science teaching and learning resources. This collection also includes a growing number of maths, technology and engineering resources.

The rate of scientific progress and change, across industry and research, has created a real need for subject-specific professional development for STEM educators. Through partnerships with teachers, scientific organisations, industry leaders and technology developers, STEM Learning offers support in teaching exciting science by drawing upon best practice highlighted by contemporary research in science and the teaching of science. I am confident that you will consider your time here well spent; Continuing Professional Development (CPD) courses at STEM Learning are often described as 'career defining experiences' by our visiting teachers and lecturers.

This handbook provides a quick step-by-step guide to the Senior Technicians Accredited Co-leaders in Science, including expectations, key contacts, administrative information, course content and assessment requirements. Please take the time to familiarise yourself with this document and gain an overview of the course requirements. During your course at the National STEM Learning Centre you will be supported by our skilled team of professional development leaders. I encourage you to call on the expertise of our staff at any time during your course.

I hope that you enjoy your time at the Centre, and find the knowledge and skills you develop valuable for years to come.

Yvonne Baker  
Chief Executive, STEM Learning Ltd



## **The National STEM Learning Centre**

The National Centre began operation in November 2005, and was formally opened by the then Prime Minister, Tony Blair, in March 2006. It is now funded by the Wellcome Trust, together with the DfE, and a number of key industry partners, for details please visit [www.stem.org.uk/project-enthuse](http://www.stem.org.uk/project-enthuse).

The National STEM Learning Centre is run by the White Rose consortium of universities (Leeds, Sheffield, Sheffield Hallam and York) who operate through STEM Learning Ltd, a private limited company. The directors comprise the vice-chancellors of the four universities and two independent members (one of whom is the Chair). The Wellcome Trust and Department for Education are represented at Board meetings by senior members of staff. The National STEM Learning Centre occupies award-winning purpose-built premises on the campus north of the University of York.

The goal of the DfE and the Wellcome Trust in establishing the network of Science Learning Centres is to transform the quality of science teaching through programmes of Continuing Professional Development (CPD) for teachers and technicians of science in primary and secondary schools and in further education. The programmes spread across the traditional school sciences of physics, chemistry and biology, and extend into other fields including psychology and earth science. There is particular emphasis on reconnecting teachers with the frontiers of their subject and equipping them with the skills to engage and inspire young people so more of them come forward to continue their study of science post-16. A particular role of the National STEM Learning Centre is in developing subject leadership, through CPD for heads of sciences in secondary schools, and science subject leaders in primary schools. It is equipped to run residential courses of several days' duration, as well as large conferences.

From April 2008, the National STEM Learning Centre has taken responsibility for co-ordinating the national network of Science Learning Centres.

## A Guide to Using the Participant Handbook

Welcome to the course for Senior Technicians Accredited Co-leaders in Science (STACS). Successful completion of this course will mean that you will gain a **University Certificate in Science Education and Leadership (Science Technician)** awarded by the University of York.

This handbook provides an introduction to your course and general information which you will find useful whilst working with us. The handbook is divided into six sections.

**Section 1** introduces you to the National STEM Learning Centre and provides all the contact details that you may need while studying with us.

**Section 2** is an introduction to your course including all course and assessment dates. It details the course structure and provides information about what is expected from you, both while attending residential periods and whilst you are back working in your educational establishment.

**Section 3** provides detail about the content of each module and the specific requirements for each assessment.

**Section 4** describes the support that is available to you during your course. It describes the roles and responsibilities of your tutors and what electronic and paper-based materials are available. You can also find details about how absence is dealt with.

**Section 5** details the assessment procedures including how to submit your work, how it is marked and what feedback you can expect.

**Section 6** deals with procedural matters that will be important to you. This section describes STEM Learning's services, support and regulations.

The handbook is intended to serve as your reference manual throughout your course. Please read it carefully and keep it in a safe and accessible place, as you will need to refer to it throughout your time on the course. A copy of the handbook is also available to download or view online within the STACS course area of the STEM Learning community group at <https://www.stem.org.uk/>

We welcome feedback on the handbook. Please let us know if you have any comments on additional items you think should be included.

## Useful Contacts

Below are the contact details of people responsible for running and managing the course as well as other sources of useful information.

Please use the following table to help you contact the right person to help you. If you are not sure who you should approach in the first instance, get in touch with your course leader.

The code for this course is NY600A16

<b>What kind of help do I need?</b>	<b>Who should I contact?</b>	<b>Email contact details</b>	<b>Phone number</b>
Questions regarding the content of the course	Simon Quinnell (Course Leader)	<a href="mailto:s.quinnell@stem.org.uk">s.quinnell@stem.org.uk</a>	01904 328318
Enquiries about your enrolment, course, accommodation, fees or bursaries	Admin Support Link	<a href="mailto:enquires@stem.org.uk">enquires@stem.org.uk</a>	01904 328300
General academic issues	Tim Risk (Exams Officer)	<a href="mailto:t.risk@stem.org.uk">t.risk@stem.org.uk</a>	01904 328300
Difficulties accessing the course area: contact the help desk	Help desk	<a href="https://www.stem.org.uk/">https://www.stem.org.uk/</a>	
Enquiries about the content or access to the National STEM Centre	National STEM Centre Support Team	<a href="https://www.stem.org.uk/">https://www.stem.org.uk/</a>	01904 328300
Issues regarding academic integrity	University of York's online VLE	<a href="http://vle.york.ac.uk/webapps/portal/frameSet.jsp">http://vle.york.ac.uk/webapps/portal/frameSet.jsp</a> You will need to log in using your University of York details and then complete the academic integrity unit.	
Journal articles	University of York Library Service	<a href="http://www.york.ac.uk/library/">http://www.york.ac.uk/library/</a> Please note that electronic resources are available to you from off- campus by logging in with your University of York details.	

## Section 2: Course Information

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### Introduction

Welcome to the Senior Technicians Accredited Co-leaders in Science course at the National STEM Learning Centre. The course code for this course is **NY600A16**

#### General description of course

This course is designed to develop technicians who are Senior or Team Leader Technicians or those who are looking to become one in the near future. The role of middle leaders in any educational establishment is crucial in bringing about change, inspiring others and promoting success. This course will give you strategies and ideas for leading and running a science department technical service, so that you are able to deliver an effective service, support engaging practical work, work with large numbers of colleagues and keep abreast of changes within the profession.

Successful completion of this course will mean that you will gain **University Certificate in Science Education and Leadership (Science Technician)** (60 credits at Certificate level) awarded by the University of York.

#### Basic structure

The course runs throughout the academic year from October to August. During this time there are three residential periods that you will have to attend at the National STEM Learning Centre, interspersed with periods during which you will have formative and summative tasks to complete during your usual work in your educational institution. You will be supported during these personal study blocks by structured workbooks and online activities using the STEM Learning community group.

The course has been designed to develop participant's academic study skills progressively throughout the programme, to support participants through the course and back in their institutions. This includes sessions in the residential periods on academic writing, researching and referencing.

#### Course Tutor

During the course you will meet various tutors with different responsibilities for teaching and supervision. The key members of the team are:

##### Simon Quinnell

Simon is leader of the course and is the National Technician Lead and a professional development leader at the National STEM Learning Centre. Simon is responsible for the course as a whole and teaches on it. He also acts as personal tutor to some participants.



##### Lynn English

Lynn is a tutor and deliverer on the course and was previously a professional development leader at the National STEM Learning Centre. She also acts as a personal tutor to some participants.





## Course Outcomes

By the end of the course you will be able to:

1. employ a range of methods to strategically lead and manage the technical service
2. evaluate your current skills and identify areas that you need to develop to become a highly effective leader
3. describe a variety of policies and procedures that can enhance the effectiveness of the technical service
4. employ a range of techniques to enable you to create a high performing team
5. describe a variety of methods that you can employ to develop the members of your team professionally

## Course Structure

The course covers four key themes:

**Theme A:** You as a Leader

**Theme B:** Working in Teams

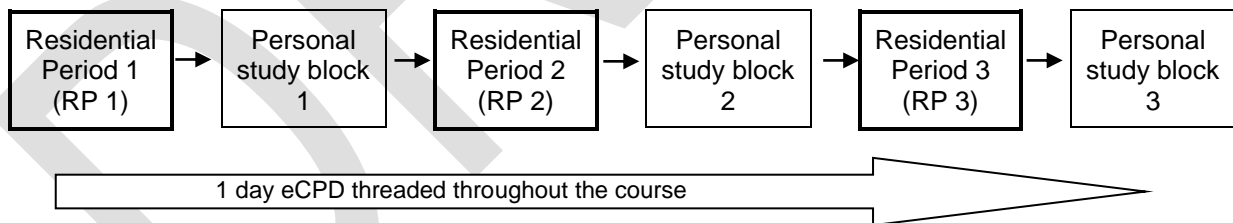
**Theme C:** Leadership of Continuing Professional Development

**Theme D:** Management of a Technical Service

## Time structure

You will complete four modules by attending three residential periods and completing the subsequent tasks during three personal study blocks, you must attend all three residential periods.

For the entire course there is a recommendation of 600 hours of study based on the convention that each credit broadly equates to ten hours of work. This time comprises residential periods, personal study learning involving completion of set tasks and self-guided learning, and time for reflective practice in your role.



## Description of work type in RPs (Residential Periods) and Personal Study Blocks

During each residential period you will attend workshops and seminars and complete tutor-supported tasks. Time is provided for individual study and reflection and for you to meet with your personal course tutors, who will help you to plan and evaluate your personal study assignments.

Your tutor will maintain contact with you when you are away from the Centre, so that progress with assessed work and personal study development is monitored and supported. You will also be supported by a supporter in your place of work. Outside the residential period, further support will be provided via STEM Learning's web-based systems and the University of York's Virtual Learning Environment (VLE).

Throughout the personal study blocks you will remain in contact with your personal course tutors using the National STEM learning Centre community group (a web-based resource encompassing email and file sharing – see section 4), so that your progress and any changes in your institution can be monitored and discussed. You are also encouraged to use the STEM Learning community group to keep in touch with other participants on the course. Your assessments will be discussed with tutors in the following residential period.

After the final residential period you will review and evaluate all of the learning and changes that have taken place as a consequence of your attendance on the course as part of your final assessment.

## Assessment

### Principles of assessment

At STEM Learning we try to ensure that every participant is empowered during their continuing professional development (CPD) experience so that they can return to their educational establishment to:

- effect change
- evaluate the impact of the change
- reflect on the longer term impact of the change on pupils' experiences and learning in science

All our assessment tasks have been developed to reflect this key principle.

The assessment of the STACS course is structured to help you become a more effective reflective practitioner and thus a more effective leader as you journey through the course. The assessment tasks have been developed to help you to link theory and research to your practice so that you learn from your experiences as you reflect on them. As you complete the assessment tasks you will progress through a learning journey. You will start by exploring aspects of effective leadership and management then moving on to communication, professional development and organisational procedures. This will lead you to developing the skills and knowledge to develop an effective technician's service.

You will be provided with feedback on assessments throughout the course which will help you learn from the work that you are doing to influence your future practice.

During the course you will work towards achieving a total of 60 credits at C level. To do this, you need to have completed **four** modules, each worth 10 or 20 credits. Assessments are set at the end of a residential period and relate to that period's module. Details of each assessment can be found in that module's workbook. Further details of these are given in relevant sections of the handbook.

### Academic integrity

As part of an academic community you have a responsibility to approach all assessments honestly and to maintain the academic integrity of the community. Academic integrity includes the values of trust, respect, fairness and honesty. To support you in striving for the highest standards of work and integrity, the University of York provides an online module that guides you through the key principles.

The module can be found on the University VLE (for information about how to access this, please see section 4), and **must be completed before the final assessment is submitted**. Participants who have not completed the module successfully will not be awarded the Certificate.

### Types of assessment

Your assessments for this course will fall into two groups:

#### Formative assessments

These are designed to provide feedback on progress and to facilitate development. Any marks given for these assessments are for guidance only and will not be counted towards your final grade.

This course includes one formative assessment task. This will be assigned at the end of residential period 1. Feedback will be provided during the personal study block. Written feedback on formative assessments will be sent to participants. If you would like to discuss the feedback with your tutor you can contact them via email to arrange a telephone meeting. Feedback will be structured so that you can learn from aspects of your assessment that have been successful and identify areas that you could develop further. This advice can then be applied to your summative assessment. You are strongly encouraged to take advantage of formative assessment opportunities.

Each formative assessment task is a written document.

**Note:** Formative assessments are sent directly to your tutor and should **not** include examination numbers.

Details of the tasks for each formative assessment can be found in the Module and Assessment Specifications in section 3.

### **Summative Assessments**

These are marked and graded and are designed to measure your performance against the learning outcomes of the module and the programme. Participants are required to pass the summative assessments in order to qualify for the final Certificate.

Each of the four modules includes summative assessments. The assessments take the form of assignments and tasks detailed in the module workbooks that you will receive at each of the residential blocks.

Between each residential block you will have the opportunity to submit some work for comments and feedback. Each piece will be given a submission deadline before the next residential period. These can be found in the workbook for that module and section 3 of this handbook. On your return to the National STEM Learning Centre your tutor will give you feedback for the assignment. For the final assessed assignment, tutors will contact you and give feedback by email.

You can find details of the tasks for each summative assessment in the Module and Assessment Specifications in section 3.

**Note:** Summative assessments must be sent directly to the Examinations Officer (see Section 5)

### **Format**

You should submit a Word document using font size 12 for each assessed piece. You must demonstrate a good standard of English and grammar.

## **Course Dates**

**Academic year 2016-2017**

**Cohort A**

**Residential period 1**

17<sup>th</sup> October-19<sup>th</sup> October 2016

**Residential period 2**

23<sup>rd</sup> January-26<sup>th</sup> January 2017

**Residential period 3**

19<sup>th</sup> June-21<sup>st</sup> June 2017

## **Deadlines for summative assessments**

### **Module 1:**

14<sup>th</sup> December 2016

### **Module 2:**

17<sup>th</sup> May 2017

### **Module 3:**

17<sup>th</sup> May 2017

### **Module 4:**

30<sup>th</sup> August 2017

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## Timeline

October 2016		Residential period 1 – Module 1
November 2016		Submit formative assessment (Module 1) Receive feedback for formative assessment by email
December 2016	<b>Wed 14<sup>th</sup> December</b>	<b>Deadline for submission of summative assessment for Module 1</b>
January 2017		Residential period 2 - Modules 2 and 3 Receive written and verbal feedback on Module 1 assessment in tutorial
February 2017		<i>Planning or carrying out CPD tasks for Module 3</i>
March 2017		<b>Suggested submission date Module 2</b> <i>Planning or carrying out CPD tasks for Module 3</i>
April 2017		<i>Planning or carrying out CPD tasks for Module 3</i>
May 2017	<b>Wed 17<sup>th</sup> May</b>	<b>Deadline for submission of summative assessments for Modules 2 and 3</b>
June 2017		Residential period 3 - Module 4 Receive written and verbal feedback on Modules 2 and 3 assessments in tutorial
July 2017		<i>Planning or carrying out reviews for Module 4</i>
August 2017	<b>Wed 30<sup>th</sup> August</b>	<b>Deadline for submission of summative assessments for Module 4</b>
October 2017		Final results probable Receive written feedback on Module 4 assessments by email following results

## Electronic resources

During the course you will have access to several electronic resources that can be accessed from any computer connected to the internet. These include:

- STEM Learning community group
- University of York VLE
- University of York Library

You can find more information regarding how to connect to these resources in section 4.

These resources will be introduced during the first residential period, but if you have difficulty with any aspect of them, please contact your tutor immediately.

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## Section 3: Module and Assessment Specifications

### Module Learning Outcomes

Course themes and corresponding modules	Module learning outcomes You will be able to:	Assessment task to determine attainment
<b>You as a Leader Module 1 10 credits</b>	<ol style="list-style-type: none"> <li>1. describe the role of a leader</li> <li>2. develop strategies for successful communication</li> <li>3. evaluate your current skills and identify areas you need to develop to become an effective leader</li> <li>4. articulate a vision for the leadership and management for your technical service</li> </ol>	<b>See module specification for Module 1</b>
<b>Working in Teams Module 2 10 credits</b>	<ol style="list-style-type: none"> <li>1. describe and reflect on best practice in team leadership</li> <li>2. describe strategies for effective communication and assess those used in your workplace</li> <li>3. describe how effective communication may be used to develop a project</li> </ol>	<b>See module specification for Module 2</b>
<b>Leadership of Continuing Professional Development Module 3 20 credits</b>	<ol style="list-style-type: none"> <li>1. describe methods of effective training, mentoring, coaching and feedback</li> <li>2. demonstrate how these can be used to develop individuals by planning, implementing and carrying out episodes of CPD</li> <li>3. evaluate subsequent benefits to the team and institution of these episodes</li> </ol>	<b>See module specification for Module 3</b>
<b>Management of a Technical Service Module 4 20 credits</b>	<ol style="list-style-type: none"> <li>1. describe best practice in the use of management and organisational systems and procedures and reflect on your own practice</li> <li>2. describe best practice of performance management and how it can be used to improve individual and institutional performance</li> <li>3. evaluate change to institutional systems and reflect on the impact of this change</li> </ol>	<b>See module specification for Module 4</b>

## Module and Assessment Specifications

<b>Module name</b>
You as a Leader
<b>Module number</b>
1
<b>Credit value</b>
10
<b>Module level</b>
Certificate (C) Level
<b>Programmes for which the module is core</b>
STACS
<b>Module Co-ordinator</b>
Simon Quinnell
<b>Module staff</b>
Simon Quinnell Lynn English
<b>Module overview</b>
During this module you will examine the role of the leader and what practices make an effective leader. You will use this knowledge to reflect upon yourself in your leadership role. You will discuss and develop your vision for the technician service or team and how that contributes to the vision for the science department. During this module you will examine and develop the necessary skills for academic writing and reflective practice.
<b>Module aims (broad statements of the nature and purpose of the module)</b>
This module is designed to develop the leadership qualities and understanding of the Senior Technician, which will enable them to develop outstanding practice amongst their colleagues.
<b>Module learning outcomes (what you should know, understand, or be able to do at the end of the module)</b>
By the end of the module you will be able to:  <ol style="list-style-type: none"><li>1. describe the role of the leader</li><li>2. develop strategies for successful communication</li><li>3. evaluate your current skills and identify areas you need to develop to become an effective leader</li><li>4. articulate a vision for leadership and management for your technical service</li></ol>
<b>Module content</b>



A mixture of tutor-led sessions, facilitated workshops and participant-led sessions will introduce and develop ideas.

- Welcome and accreditation information
- Leadership and vision
- Self-leadership research
- Being proactive in promoting the technical service and practical science
- Reflective practice, academic integrity
- Study skills and academic writing
- Individual tutorials
- The role of your school supporter
- The STEM Learning community group
- Access to the University of York's VLE and library

## Assessment

The Module 1 workbook provides full details of all formative assessments, skills and knowledge tasks and the summative assessment for this module.

### Summative Assessment 1.1: Myself as a leader

Write an essay of up to **2000 words** entitled **Myself as a leader**. Use evidence from background reading to support your ideas.

#### Guidance

- Having worked through the taught sessions and workbook, what do you consider are your strengths and areas for development as a leader? Give examples to support this **(60%)**
- Identify the next steps you will take to further develop your leadership skills **(40%)**

Percentages give approximate recommendations for the word count in sections of the assessment. This assignment forms part of your final mark. You will be expected to demonstrate evidence of your learning during the module and from the tasks you have completed. You should include examples from your own practice and reading to illustrate and support your assertions whenever appropriate.

The deadline for this assignment is **Wednesday 14<sup>th</sup> December 2016**

## Module indicative reading list

Crawford, M., Kydd, L. and Riches, C. (2002). *Leadership and teams in educational management*. Buckingham: Open University Press.

Goleman, D. (2004). *Emotional intelligence*. London: Bloomsbury Publishing.

Kotter, J. and Rathgeber, H. (2006). *Our iceberg is melting: changing and succeeding under any conditions*. London: Macmillan.

Meyers & Briggs Foundation. *Personality types*. Available at <http://www.myersbriggs.org/index.asp> [accessed 21 September 2012].

Owen, J. (2009). *How to lead: what you actually need to do to manage, lead and succeed*. Harlow: Pearson Education.

Pedler, M., Burgoyne, J. and Boydell, T. (2006). *A manager's guide to self-development*. McGraw-Hill Professional.

Dent, F. (2012). *Leadership Pocketbook*. Alresford: Management Pocketbooks

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<b>Module name</b>
Working in Teams
<b>Module number</b>
2
<b>Credit value</b>
10
<b>Module level</b>
Certificate (C) Level
<b>Programmes for which the module is core</b>
STACS
<b>Module Co-ordinator</b>
Simon Quinnell
<b>Module staff</b>
Simon Quinnell Lynn English
<b>Module overview</b>
During this module, you will examine teams and how they work, leading to the development of strategies for making them more effective. You will examine and discuss the importance of work beyond the science department and how to effectively lead and manage these outreach activities. You will discuss and develop effective communication strategies and consider the effect these have on teams.
<b>Module aims (broad statements of the nature and purpose of the module)</b>
This module aims to enhance the abilities of the senior technician in managing and developing individuals and teams. You will be able to implement successful communication between individuals for the benefit of their teams and outreach activities.
<b>Module learning outcomes (what you should know, understand, or be able to do at the end of the module)</b>
By the end of the module you will be able to: <ol style="list-style-type: none"> <li>1. describe and reflect on best practice in team leadership</li> <li>2. describe strategies for effective communication and assess those used in your workplace</li> <li>3. describe how effective communication may be used to develop a project</li> </ol>
<b>Module content</b>
A mixture of tutor and participant-led sessions, facilitated workshops and workbook activities will introduce and develop ideas including: <ul style="list-style-type: none"> <li>• team research (how teams work, relationships and how to develop people, management strategies, needs analysis of individuals within teams)</li> <li>• communication strategies and best practice</li> <li>• outreach role (how to manage trips, science clubs, primary liaison, open evenings)</li> <li>• creating and leading a local technicians group</li> </ul>

## Assessment

The Module 2 workbook provides full details of all skills and knowledge tasks and the summative assessment for this module.

### Summative assessment 2.1: Successful communication

Write an essay of up to **2000 words** entitled '**The importance of successful communication.**'

#### Guidance

- Describe the characteristics of a highly effective team. Use examples to explain how your team compares (40%)
- Give advantages and disadvantages of different tools and strategies that may be used to communicate within and between teams (20%)

For this assignment you need to think about an outreach project e.g. setting up a local technicians' network or science club. You do not need to carry out this project as part of this assessment. This is simply to clarify your thinking.

- Explain what you need to communicate to whom and how you would do this, to make sure a project is successful. Justify your chosen strategies (40%)

Percentages give approximate recommendations for the word count in sections of the assessment. This assignment forms part of your final mark. You will be expected to demonstrate evidence of your learning during the module and from the tasks you have completed. You should include examples from your own practice and reading to illustrate and support your assertions whenever appropriate.

**The deadline for this assignment is Wednesday 17<sup>th</sup> May 2016**

## Module indicative reading list

Barker, A. (2006). *Improve your communication skills*. London: Kogan Page.

Crawford, M., Kydd, L. and Riches, C. (2002). *Leadership and teams in educational management*. Buckingham: Open University Press.

Hargie, O. (2006). *The handbook of communication skills*. London: Routledge.

<b>Module name</b>
Leadership of Continuing Professional Development
<b>Module number</b>
3
<b>Credit value</b>
20
<b>Module level</b>
Certificate (C) Level
<b>Programmes for which the module is core</b>
STACS
<b>Module Co-ordinator</b>
Simon Quinnell Lynn English
<b>Module staff</b>
Simon Quinnell
<b>Module overview</b>
In this module, you will examine the importance of good quality continuing professional development (CPD), how to deliver it and how to plan CPD for your team. You will consider the impact that mentoring, coaching and feedback has on individuals, team and institution dynamics.
<b>Module aims (broad statements of the nature and purpose of the module)</b>
This module aims to enhance the abilities of the senior technician in managing and developing individuals and teams. It will help them develop strategies and skills to successfully train, mentor and coach individuals and teams, improve effectiveness of the technician service and assist in the implementation of more effective practical work.
<b>Module learning outcomes (what you should know, understand, or be able to do at the end of the module)</b>
By the end of the module you will be able to: <ol style="list-style-type: none"> <li>1. describe methods of effective training, mentoring, coaching and feedback</li> <li>2. demonstrate how these can be used to develop individuals by planning, implementing and carrying out episodes of CPD</li> <li>3. evaluate subsequent benefits to the team and institution of these episodes</li> </ol>
<b>Module content</b>
A mixture of tutor-led sessions, facilitated workshops and participant-led sessions will introduce and develop ideas including: <ul style="list-style-type: none"> <li>• training others (characteristics of good training and how to deliver it)</li> <li>• mentoring and coaching</li> <li>• how to provide constructive feedback</li> <li>• practical workshop (training exercise)</li> </ul>

- individual tutorials
- work-based project

## Assessment

The Module 3 workbook provides full details of all skills and knowledge tasks and the summative assessment for this module.

### Summative Assessment 3.1: Importance of continuing professional development

Write an essay of up to **4000 words** entitled **The importance of continuing professional development**.

#### Guidance

- What are the different types of CPD? Describe a selection of different types (10%)
- Discuss the suitability of different types for different purposes (20%)
- Examine and evaluate the importance of feedback on a) the person taking part in the CPD activity and b) the deliverer (20%)
- Create two instances of CPD and give a brief description of each:
  - Explain why you chose the activities that you have decided upon and the way they are being run (20%)
  - Evaluate each instance, using your own reflections and feedback gathered from your colleagues (20%)
  - What changes would you make next time you carry out CPD? (10%)

Percentages give approximate recommendations for the word count in sections of the assessment. This assignment forms part of your final mark. You will be expected to demonstrate evidence of your learning during the module and from the tasks you have completed. You should include examples from your own practice and reading to illustrate and support your assertions whenever appropriate.

**The deadline for this assignment is Wednesday 17<sup>th</sup> May 2017**

#### Module indicative reading list

Bubb, S. and Earley, P. (2007). *Leading and managing continuing professional development: developing people, developing schools*. 2<sup>nd</sup> ed. London: Sage.

CLEAPSS.(2003). *Induction and training of science technicians L234*. Middlesex: Brunel University.

Fleming, I. and Taylor, A. (2003). *Coaching pocketbook*. Arlesford: Management Pocketbooks Ltd.

Jarvis, T., Hingley, P. and Pell, A. (2008). *Changes in secondary technicians' attitudes following a four-day in-service programme and subsequent effects on school practice*. *Journal of In-Service Education*, [34](#), 27-46.

Office for Standards in Education, (July 2006). *The logical chain: continuing professional development in effective schools*. HMI 2639. Manchester: OfSTED publications.

Guskey, T. (200). *Evaluating Professional Development*. London: Corwin press

#### Module name

Management of a Technical Service

<b>Module number</b>
4
<b>Credit value</b>
20
<b>Module level</b>
Certificate (C) Level
<b>Programmes for which the module is core or an option</b>
STACS
<b>Module Co-ordinator</b>
Simon Quinnell
<b>Module staff</b>
Simon Quinnell Lynn English
<b>Module overview</b>
During this module you will examine and evaluate a range of policies and procedures that relate to the effective running of a school science technical service. You will examine, discuss and evaluate management systems, the management of health and safety, time and resource management, running meetings and interviews. You will examine the role of practical work and how best to research new practical work ideas and effective performance management and appraisal. This module looks at the effective day to day management of the technical service and what its purpose is.
<b>Module aims (broad statements of the nature and purpose of the module)</b>
This module is designed to enable you to examine a range of policies and procedures in the delivery of an effective technical service and relate them to your own practice and reflect. Through this process you should be able to identify improvements to your own practice and by implementing these improvements raise the standard of practical work in the classroom.
<b>Module learning outcomes (what you should know, understand, or be able to do at the end of the module)</b>
By the end of the module you will be able to: <ol style="list-style-type: none"> <li>1. describe best practice of use of management and organisational systems and procedures and reflect on your own practice</li> <li>2. describe best practice of performance management and how it can be used to improve individual and institutional performance</li> <li>3. evaluate change to institutional systems and reflect on the impact of this change</li> </ol>
<b>Module content</b>
A mixture of tutor-led sessions, facilitated workshops and participant-led sessions will introduce and develop ideas including: <ul style="list-style-type: none"> <li>• time management (of self, individuals and team)</li> <li>• health and safety management (of self, individuals and team)</li> </ul>

- researching practical work
- management systems (ordering, stock, requisitions, maintenance, organisation)
- performance management and appraisal
- running meetings and interviews
- individual tutorials

## Assessment

The Module 4 workbook provides full details of all skills and knowledge tasks and the summative assessment for this module. There are **two** assignments for this module.

### Summative Assessment 4.1: Organisation of a technical service

Write an essay of up to **3000 words** entitled **Organisation of a technical service**.

#### Guidance

You will examine and evaluate the procedures technicians need to maintain the technical service within a school science department.

You will need to:

- Consider two of your organisation procedures from this list: requisition system, stock control system, ordering systems or maintenance systems. Describe the current situation and for each compare and contrast with an alternative approach **(35%)**
- Explain how your current procedures and systems affect the way you manage your service, what improvements could be made **(35%)**
- Examine the responsibilities of the senior technician when considering health and safety systems **(15%)**
- Design a risk assessment for common technician activities and implement this, reflect on the process of designing it and its effectiveness and how easy it has been or will be to implement it **(15%)**

Percentages give approximate recommendations for the word count in sections of the assessment.

This assignment forms part of your final mark. You will be expected to demonstrate evidence of your learning during the module and from the tasks you have completed. You should include examples from your own practice and reading to illustrate and support your assertions whenever appropriate.

**The deadline for submission of this assignment is Wednesday 30<sup>th</sup> August 2017**



## Summative Assessment 4.2: Evaluation

Write an essay of up to **1000 words** entitled **Evaluation of change in practice**.

### Guidance

You will need to report and evaluate a change or changes in practice you have made as a result of this course.

You will need to:

- Describe the change **(30%)**
- Evaluate the impact and whether the change has been successful. How do you know? **(70%)**

Percentages give approximate recommendations for the word count in sections of the assessment. This assignment forms part of your final mark. You will be expected to demonstrate evidence of your learning during the module and from the tasks you have completed. You should include examples from your own practice and reading to illustrate and support your assertions whenever appropriate.

**The deadline for submission of this assignment is Wednesday 30<sup>th</sup> August 2017**

### Module indicative reading lists

#### Module reading list for 4.1

ASE, (2007). *The prep room organiser*. Hatfield: Hertfordshire University.

CLEAPSS, (2006). *Running a prep room L248a*. Middlesex: Brunel University.

CLEAPSS, (2006). *Running a prep room (documents) L248b*. Middlesex: Brunel University.

CLEAPSS, 2005. *Managing risk assessment in science L196*. Middlesex: Brunel University.

Crawford, M., Kydd, L. and Riches, C. (2002). *Leadership and teams in educational management*. Buckingham: Open University Press.

Jarvis, T., Hingley, P. and Pell, A. (2008). *Changes in secondary technicians' attitudes following a four-day in-service programme and subsequent effects on school practice*. *Journal of In-Service Education* (34) 27-46.

Posner, K. and Applegarth, M. (2008). *The project management pocketbook*. Arlesford: Management Pocketbooks Ltd.

#### Module reading list for 4.2

Crawford, M., Kydd, L. and Riches, C. (2002). *Leadership and teams in educational management*. Buckingham: Open University Press.

Kotter, J.P. and Rathgeber, H. (2006). *Our iceberg is melting: changing and succeeding under any conditions*. London: Macmillan.

## Section 4: Support for Participants

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### Entry Criteria

All participants on this course will have at least three years' experience as a school or college technician. They will be senior technicians, or be aspiring to this role. All participants must be supported by a named supporter in their school. The supporter should be someone who has been awarded an Honours degree

### Participant Responsibility

Participants should be aware that success in this course involves establishing a good working relationship with course tutors and peers. Participants must take responsibility for their own learning and recognise that all participants will have much to give to the course as well as to take from it.

Participants are encouraged to provide tutors with feedback regarding how the course is going throughout their course. This can be done informally, or by speaking to the Course Participant Representative who can raise general comments, suggestions for improvement and praise for aspects of the course at the Professional Recognition and Accreditation Board (PRAB). You can find more information about PRAB later in this section.

### General Support

STEM learning endeavours to support the needs of all participants, whatever their learning needs, to enable them to complete the course successfully. In order to do this, participants are asked when they enrol onto a course, to identify any specific requirements they have.

The Centre's buildings have been designed to enable access for those with physical disabilities.

Course materials are prepared in advance of participants attending the course so that they are in a suitable format to support all participants' learning.

### Course Tutors

Each course has a number of course tutors. The tutors deliver the course and lead seminars and workshops. Each participant will be assigned a personal course tutor with whom they will discuss their individual progress throughout the course.

Participants will meet with their personal tutor at least once during each residential period, but there will be many opportunities for informal discussion. Formal, one-to-one sessions will last approximately ten minutes, and a record of the meeting will be kept by the tutor. Tutors will contact participants at least once by email during each institutional period to find out how their gap task and formative assessment work is progressing.

Participants are encouraged to contact their tutor, whenever they feel that they need academic support, via email in the first instance. Tutors will endeavour to reply within five working days of the email enquiry. Contact will be primarily by email, but telephone meetings may occur if needed.

Participants with urgent or non-academic enquiries are recommended to contact the main reception who will be able to deal with the request. Their number is **01904 328300**.

Participants are also encouraged to contact fellow participants during institutional periods via the STEM Learning community group. Training on how to use these resources will be provided during the first residential period.

## Course tutor absence

If any course tutor is absent for any significant block of time during the course, especially during a residential period, STEM Learning will find a substitute tutor to act as a back-up.

## Learning Resources

### Handbooks

This is the course handbook which contains details about the course including course dates, contact details and all procedures relating to assessment and accreditation. Participants should read the handbook carefully and use it as a first port of call for any questions. The handbook is also available on the course area of the STEM Learning community group.

### The STEM Learning community group

STEM Learning is supported by an online facility in the form of its community group (<https://www.stem.org.uk/>) which can be accessed by any computer connected to the internet. The STEM Learning community group for this group is a versatile tool to help attendees keep in contact with each other and their tutors.

### The National STEM Resource Centre

The National STEM Resource Centre houses the UK's largest accessible physical library of resource materials to support the teaching and learning of science, design and technology, engineering and mathematics.

The collections range across materials for the 5 to 19 age group. Alongside contemporary resource materials including print, multi-media, and practical resources, is a growing archive collection which showcases several decades of curriculum development.

The collections are currently available for participants to view onsite when visiting the National STEM Learning Centre, but an increasing number of collections are now available online, through the resources page on the STEM Learning site.

Participants are strongly encouraged to visit the Centre during residential periods to source materials to support their assessed work as well as materials that will aid their teaching across the curriculum.

### The University of York Library

**All participants on accredited courses have full membership of the University of York Library** throughout their course. Participants may visit the library during residential periods and access it electronically.

The main print collections to support all those studying, teaching and researching education are located in the J B Morrell Library, the main University library, in section K on the first floor. The Harry Fairhurst building, adjacent to the J B Morrell, offers a range of brand new IT, group and collaborative spaces in which to study. See the website for further information: [www.york.ac.uk/library](http://www.york.ac.uk/library)

You will be able to:

- use the Library for reference only, between 8am and 10pm
- use copying facilities by using a visitor copying facility, which entails paying a £2 deposit for a copy card which you can keep for up to one year. You can add value to the card whenever you need to do copying or scanning
- use the Walk-in Access service to view most electronic resources free of charge on the Library premises, as long as they are used for educational purposes.

For more information, please see:

- [www.york.ac.uk/library/info-for/visitors](http://www.york.ac.uk/library/info-for/visitors)
- [www.york.ac.uk/library/info-for/visitors/eresources](http://www.york.ac.uk/library/info-for/visitors/eresources)

To check what the University Library holds, in print and electronically, use YorSearch, the Library catalogue:  
<http://yorsearch.york.ac.uk>

If you need help in using library resources and services, please ask for assistance at the library help desk or email: [lib-enquiry@york.ac.uk](mailto:lib-enquiry@york.ac.uk). There is also a dedicated Academic Liaison Librarian supporting the work of each department in the University.

For all information related to education resources in the library, please consult the brand new online guide:  
<http://libguides.york.ac.uk/education>

All participants are issued with a University of York username and password which enable them to access these electronic resources from any computer connected to the internet. Participants who have difficulty accessing or using the resources should contact their tutor in the first instance. Please note that National STEM Learning Centre staff have limited ability to deal with technical problems related to the University of York's electronic resources (eg lost passwords, incompatible software), and participants may be referred to the University of York IT Services Support Office (01904 323838; [itsupport@york.ac.uk](mailto:itsupport@york.ac.uk)).

### **The University of York VLE (Yorkshire)**

The University of York VLE, Yorkshire, is a virtual learning environment that contains information regarding studying at the University of York. National STEM Learning Centre participants will use Yorkshire primarily to access the Academic Integrity Module (see section 5). Access is via any computer connected to the internet using a University of York username and password (see previous section regarding the library).

Yorkshire can be accessed at <http://vle.york.ac.uk>

### **Quality Assurance**

#### **Professional Recognition and Accreditation Board (PRAB)**

The Professional Recognition and Accreditation Board (PRAB) is responsible for the management, development and delivery of assessment on relevant courses and professional recognition offered by STEM Learning and validated by the University of York.

It develops and co-ordinates policy on all matters related to the quality and standards of relevant courses (in consultation with the University of York's University Teaching Committee), as well as monitoring, evaluating and supporting the development of teaching, learning and assessment practices. The PRAB deals with matters relating to individual participants on relevant courses including admissions, attendance, progression, conduct and achievement.

The PRAB is the principal channel for participants to make their views known. Course representatives are invited to attend each meeting and to contribute to the agenda. In order to facilitate membership for a course representative from anywhere within the UK, the representative will be invited to comment on the agenda and minutes for each meeting, and given the opportunity to attend meetings by phone or video conference.

## **Participant feedback and representation**

All courses run at the National STEM Learning Centre by STEM Learning are evaluated by every participant using a learning and evaluation tool and the impact toolkit. This tool gives participants an opportunity to reflect and comment on individual sessions, residential periods, assessment tasks and the course as a whole.

The completed learning and evaluation tools and evaluation forms are used by the course leaders to produce a report of the course. The report summarises the most effective aspects of the course, identifies participants who may contribute to other courses and recommends future improvements for subsequent iterations. It is also used by the participants to shape the content of future residential periods. Reports are submitted and reviewed by the PRAB and relevant steps taken to ensure that any issues raised are addressed.

Each course is invited to send a course representative to attend the PRAB. At the beginning of the academic year one course will nominate a representative to become a member, and any issues that cannot be resolved through the learning and evaluation tool should be reported to the course representative who can raise them at a PRAB meeting.

DRAFT

## **Participant Absence**

### **Participant illness**

If a participant misses a small part of one of the residential periods due to illness, arrangements will be made to cover the missed work at a later date.

Should illness occur between residential periods and prevent participants from completing assessed work, an extension may be applied for using the mitigating circumstances procedure. See page 33 'Extensions (due to mitigating circumstances)'.

If a participant is taken seriously ill, they may defer their involvement in the course and rejoin the course in the following year at the appropriate residential period.

Under some circumstances, special arrangements may be made for these participants to attend a 'catch-up' residential period at the National STEM Learning Centre during which the work missed will be covered in an intensive one-to-one session with one of the course tutors. In these circumstances the participant must indicate a willingness to put in the extra work to cover the assessment related to the residential period missed.

### **Leave of absence**

Requests for any leave of absence must be made to the Chair of PRAB at STEM Learning. Such requests require a statement from the course tutor.

### **Dealing with withdrawals**

#### **Withdrawal from the STACS course**

Participants who wish to withdraw from the course should discuss this with their tutor. Participants who fail to attend one of the residential periods or who have not been in contact within two weeks after failing to submit work by the required deadline will be contacted by the course tutor to seek clarification. Tutors will try, if possible, to provide a catch-up session at the National Centre. In the past this has taken the form of an intensive one-to-one day course. There may also be the possibility of deferring attendance on the course to the subsequent year. The tutor will try as much as possible to help participants cover the work needed to complete the course.

If contact cannot be re-established after failing to attend or submit work, it will be assumed that the participant wishes to be withdrawn from the certificated course and will no longer qualify for the certificate. Participants who decide to completely withdraw should be aware that the terms and conditions for bursary awards require full attendance.

## Section 5: Assessment Guidance

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### Award Requirements

Successful completion of this course will mean that you will gain a University Certificate in Science Education and Leadership (Science Technicians) (60 credits at Certificate level) awarded by the University of York.

Successful completion entails:

- attending all residential periods
- successful completion of the University of York Academic Integrity Module
- gaining a passing grade for all four modules (in some circumstances compensation rules may be applied. See p35)

### Academic Requirements

Participants are required to complete all summative assessments (section 3). The writing should be in clear English and the content should be at Certificate level. Detailed information regarding what constitutes Certificate level work will be discussed during the course and is summarised in the class descriptors table on the following page.

### Writing skills

A good standard of written English and punctuation is expected in all assessments. The following books are recommended to those who require guidance:

Cameron, D. (2007). *The Teacher's Guide to Grammar*, Milton Keynes: OUP.

Truss, L. (2009). *Eats, Shoots and Leaves*, London: Fourth Estate Ltd.

Wyse D. (2012). *The Good Writing Guide for Education Students*, London: Sage Publications Ltd.

### Academic Integrity

All participants must complete the University of York Academic Integrity Module, details of which will be given during the first residential period. This module can be accessed at any point during the course and should be used as the first port of call in the case any questions.

STEM Learning takes a very serious view of academic misconduct and penalties will be applied to anyone found to have attempted to mislead markers. Forms of academic misconduct include:

**Cheating:** Deliberate failure to comply with the rules governing examinations, eg by making arrangements to have unauthorised access to information.

**Collusion:** Assisting another individual to gain advantage by unfair means, or receiving such assistance.

**Fabrication:** Misleading the markers by presenting work for assessment in a way that intentionally or recklessly suggests that factual information has been collected when this is not in fact the case, or falsifies factual information.

**Personation:** Producing work to be submitted as the work of another individual in order to deceive the markers, or soliciting another individual to act or appear as yourself, or to produce work on your behalf.

**Plagiarism:** Incorporating without appropriate acknowledgement, material derived from the work (published or unpublished) of another.

The penalties for academic misconduct will depend on the seriousness of the offence. Participants found guilty of academic misconduct may fail their certificate. Participants with any queries about what constitutes academic misconduct, and in particular about the proper attribution of material derived from another's work, should seek advice from their course tutor.

### **Advice on avoiding problems of collusion and plagiarism**

Collusion and plagiarism are both extremely grave offences and STEM Learning is bound by the University regulations to treat these offences with the utmost seriousness.

It is important that participants are able to distinguish between the useful process of co-operating and collaborating with others in group work, and colluding with another person to represent someone else's work as their own. Participants who are unsure about this distinction should seek advice from their course tutor or other member of the teaching staff. Collusion includes getting someone else to write an essay or part of an essay, or allowing your own work to be copied.

There are a couple of simple rules:

1. To refer to the work of someone else without using a direct quotation – for example, a summary or paraphrase of the author's argument – acknowledge the source explicitly with a reference to the author and year, giving full details in the bibliography.
2. To quote someone else directly, a reference must be given as in (1), but the page number from the original book or paper must be included. The quoted passage must be reproduced exactly as it appears in the original and enclosed in quotation marks. Please note that the unacknowledged use of material derived from the internet constitutes plagiarism. Any material that is taken from web-based sources should be clearly acknowledged.

### **Ethical Principles**

For some assessments participants may be carrying out research involving people other than themselves. All participants must read the document *Ethical principles in education research* and sign the agreement forms provided by the course tutor at the start of the course.

Whenever data is being collected for a particular assignment, participants should submit a completed copy of an Ethical Audit form by email to [t.risk@stem.org.uk](mailto:t.risk@stem.org.uk) outlining their plans. A reply will be sent indicating that the data collection may proceed as planned or your tutor may contact you for further clarification. Copies of this form and *Ethical principles in education research* can be found on the STEM community area for the course.

### **Referencing**

#### **Crediting sources**

It is of vital importance that the words and ideas of the participant are distinguished from those of others. Failure to make this distinction, whether or not it is intentional, can lead to accusations of plagiarism, which is equivalent to cheating. Participants whose work is plagiarised are liable to fail not just that module but the entire course automatically without the option of resubmission.

#### **Basic information on references**

It is essential that sources of information are clearly referenced. Referencing systems work in two parts: brief references made within the text; and complete references to books and articles at the end of a piece of work. The list of references at the end is called **References**, and should include full details of all the sources that have been quoted or referred to within the work.

#### **Brief references in the text**

The **author's** surname and the publication date should be given in brackets at an appropriate point in the sentence. Page numbers are helpful but not essential, except in the case of quotations, when they should always be given.



This applies to books, chapters from edited books, and articles, though it is not necessary to indicate whether the source is a book, journal etc. Examples of how to reference are given below.

Example 1:

Bush takes the view that the size of an institution may play a key role in determining the management structures and processes which evolve within it (Bush, 1986).

Example 2:

Tasks should have 'some sort of relationship to the real world' (Skehan quoted in Ellis, 2006, p.6).

## References

This list is compiled in alphabetical order of author's surname, as below. The references should not be numbered.

### Book

Kyriacou, C. (2007) *Essential Teaching Skills*, 3rd edn. Cheltenham: Nelson Thornes.

### Edited book

Crossley, M. and Vulliamy, G. (eds) (1997) *Qualitative Educational Research in Developing Countries: Current Perspectives*. New York: Garland.

### Journal article

Davies, I., Gray, G. and Stephens, P. (1998) Education for citizenship: A case study of a 'democracy day' at a comprehensive school, *Educational Review*, 50 (1): 15-27.

### Chapter in an edited book or published conference proceedings

Lubben, F., Campbell, B., Maphalala, T. and Putsoa, B. (1998) A teacher-industrialist partnership in curriculum materials development. In N.A. Ogude and C. Bohrman (eds) *Proceedings of the Sixth Annual Meeting of the South African Association for Mathematics and Science Education* (pp. 285-292). Pretoria: University of South Africa Press.

### Conference paper not in published proceedings

Braund, M and Driver, M. (2002) Moving to the big school: what do pupils think about science practical work pre- and post- transfer? Paper presented at the Annual Conference of the British Educational Research Association, University of Exeter, England, 12-14 September 2002.  
<http://www.leeds.ac.uk/educol/documents/00002157.htm>

### Thesis

Jackson, C. (1997) *Self-Concept, Social Comparison and Gender in the Classroom: A Case for an Integrated Theoretical Approach*. Ph.D. thesis, Lancaster University.

### Newspaper article

Judd, J. (1999) New GCSE in citizenship will teach children how to cope, *The Independent*, 10 May, p.5.

### Internet site

Teacher Training Agency (TTA) (1999) Induction for Newly Qualified Teachers. <http://www.teach-tta.gov.uk/induction.htm> (version current at 12 May 2006)

HTML files are flagged as www pages whether available by HTTP or FTP. As documents are liable to change, you should always specify a modification date of the version used or, if none is available, an access date.

### Book review

Davies, I. (1996) Review of P. Anderson and N. Mann (1997) *Safety First: The Making of New Labour* (London: Granta Books). *Talking Politics*, 10 (3): 229-230.

### A Government report

Department of Education and Science and the Welsh Office (DES/WO) (1989) *Discipline in Schools* (The Elton Report). London: HMSO.

## Certificate Level Class Descriptors

The following table indicates the progression between different levels of work at Certificate level.  
The understanding of key ideas and use of material areas, carry more weighting towards your final mark.

Areas of assignment	Band				
	Fail 0-39	40-49	50-59	60-79	80-100
<p>Understanding of key ideas</p> <p>Do they answer the question that they have been asked?</p>	<p>Not understood and <b>not answered</b> the question(s) asked. Throughout there has been a <b>lack of focus</b> to the writing.</p>	<p>They have answered <b>some</b> of the questions and demonstrated a <b>basic</b> knowledge of the ideas involved.</p>	<p>They have answered the <b>main parts</b> of <b>all</b> the questions and demonstrated a <b>sound</b> knowledge of the ideas involved.</p>	<p>They have answered <b>all</b> parts of <b>all</b> the questions and demonstrated a sound knowledge by putting together an <b>explanation</b> using the <b>key</b> ideas.</p>	<p>They have answered <b>all</b> the questions <b>comprehensively</b> and demonstrated a <b>thorough</b> knowledge by conducting an <b>analysis</b> of the <b>key</b> ideas.</p>
<p>Use of material</p> <p>Do they link their own experiences with different perspectives to build a sustained critical reflection?</p>	<p>This is a <b>personal</b> reflection with <b>no linking</b> to any of the provided reading.</p>	<p>The assignment will be <b>descriptive</b> with <b>some</b> evidence of <b>linking</b> to professional practice, theoretical perspective and research evidence.</p>	<p>The assignment will be <b>reflective</b> with <b>some</b> evidence of <b>linking</b> to professional practice, theoretical perspective and research evidence.</p>	<p>There is clear evidence of <b>some critical reflection</b> through a <b>consideration</b> of professional practice, theoretical perspective and research evidence.</p>	<p>There is clear evidence of a <b>sustained critical reflection</b> through a <b>well-balanced examination</b> of the <b>interrelationship</b> between professional practice, theoretical perspective and research evidence.</p>
<p>Range and comprehension of sources</p> <p>Is sufficient relevant background reading demonstrated?</p>	<p>There is <b>no evidence</b> of use of any literature.</p>	<p>There is <b>evidence</b> of <b>some use</b> of literature.</p>	<p>There is evidence of <b>satisfactory</b> use of literature but it may be <b>limited in number, range and/or relevance</b>.</p>	<p>There is evidence of <b>good</b> use of literature, which includes a <b>wider range</b> and <b>clear relevance</b>.</p>	<p>There is evidence of <b>impressive</b> use of literature, which includes a <b>wide range</b> of <b>key sources</b> with their <b>relevance highlighted</b>.</p>
<p>Communication</p> <p>Is the work clearly structured and points easy to follow? Is the correct vocabulary used?</p>	<p>The assignment is <b>difficult to follow</b> in terms of structure; it <b>lacks coherence</b> and <b>includes</b> factual and/or grammatical <b>errors</b>.</p>	<p>There is a clear <b>basic</b> assignment structure that may <b>break down</b> at times and it is <b>hard to follow</b> points being made. This may include <b>several</b> factual errors and/or <b>incorrect</b> vocabulary.</p>	<p>There is a clear basic assignment structure that <b>can be followed</b> with <b>most</b> points made clearly. This may include <b>minor</b> factual errors and/or <b>incorrect</b> vocabulary.</p>	<p>The assignment is <b>well structured</b> with points <b>building</b> on those previously made. There are <b>no significant</b> factual errors and the <b>correct</b> vocabulary is used.</p>	<p>The assignment is well structured with <b>relevant</b> points being <b>linked across</b> the work. There are <b>no</b> factual errors and the correct vocabulary is used.</p>
<p>Level of citation</p> <p>Is the use of literature throughout appropriate?</p>	<p>Sources are cited <b>poorly</b> and/or incorrectly at an unacceptable level.</p>	<p>Sources are <b>generally</b> cited in an <b>appropriate</b> manner. There may be <b>several</b> errors in the use of citation conventions and there may be <b>limited</b> integration of the referencing in the work.</p>	<p>Sources are generally cited in an appropriate manner. There may be <b>minor</b> errors and there may <b>not be full integration</b> of the referencing in the work.</p>	<p>Sources <b>are</b> cited in an appropriate manner. There are <b>no significant</b> errors in the use of citation conventions and the <b>majority</b> of referencing is <b>fully integrated</b> into the work.</p>	<p>Sources are cited in an appropriate manner. There are <b>no</b> errors in the use of citation conventions and <b>all</b> referencing is <b>fully integrated</b> into the work.</p>

## Submission of Work

All participants must have successfully completed the University of York Academic Integrity Module before submission of their final assessment.

### Formative assessments

These should be emailed directly to your tutor and **should not** include your examination number.

### Summative assessments

Before submitting this work, participants are advised to ensure the following:

1. Only one Word document file is submitted for each summative assessment
2. Each file name should be the participant's examination number and the module number eg 'STCS12345 module 2.doc'
3. All reference lists and appendices are contained within the document.
4. The participant's exam number is in the header.
5. The assessment title is in the header.
6. The assessment word count (excluding reference lists and appendices) is stated at the end of the work. There will be a mark penalty if you go over the word count.
7. The document submitted is no larger than 3MB
8. Pages are numbered in the footer.
9. All summative assessments must be emailed to the examination officer at [exam-submissions@stem.org.uk](mailto:exam-submissions@stem.org.uk) by 11pm (GMT/BST) on the date of submission. The time of submission will be taken as the time stamp on the received email. Submission will be acknowledged by email. This email should be retained by the participants as proof of submission.

Participants who require support in attaching appendices into the main body of their assignment or in compressing files should seek advice from their course tutor in good time.

Any participant who does NOT receive a reply within two working days should email the Admin Support Link (see contacts list in section 1), attaching a copy of the submission.

Further guidance on the length and content of each task is provided in the assessment specifications in section 3.

### Penalties for late submission

In accordance with University regulations, all work submitted late, without valid mitigating circumstances, will have 10% of the available marks deducted for each day (or part of each day) that the work is late, up to a total of five days, including weekends and bank holidays eg if work is awarded a mark of 65 out of 100, and the work is up to one day late, the final mark is 55. After five days, the work is marked at zero. The penalty cannot take the mark into a negative result.

Participants who are concerned that, due to mitigating circumstances, they may not be able to submit their work by the deadline, should contact their tutor immediately.

The time of submission is recorded as the time that the email is received by the examination officer.

### Extensions (due to mitigating circumstances)

If a participant is unable to meet the deadline for submission of an assessment task they may apply for an extension to the deadline due to mitigating circumstances. These are defined as circumstances in their life which significantly affect them submitting their assessments. Participants who believe that this applies to them can request an extension by submitting a Mitigating Circumstances Claim form. Participants should submit the form and documentary evidence to the Exams Officer for consideration by the Mitigating Circumstances sub-group of PRAB.

The Mitigating Circumstances form and the acceptable circumstances table are available on your STEM Learning course area.

**Please note:** it is very important that mitigating circumstances are formally submitted **BEFORE** the assessment which you believe may have been affected, or at the latest within a week of the normal deadline for completion of the assessment. Participants should note that extensions to a final deadline which extends beyond the end marking period for the course may result in a considerable delay in the issue of their final mark. In most cases in this circumstance, their final mark will not be able to be ratified until the subsequent annual meeting of the Examination Board.

All Mitigating Circumstances forms must be accompanied by documentary evidence, as specified in the table of acceptable circumstances.

Claims of mitigating circumstances will not be considered without completion of the above-named form and provision of supporting evidence. Third-party applications for consideration of mitigating circumstances should not be accepted, unless the submitter has power of attorney for the student concerned.

If an extension request is granted, the participant will be informed in writing.

## **Marking**

All modules carry credit and are summatively assessed. The pass mark for all modules is 40.

Module marks are integers on the University's graded 0-100 mark scale. Each module carries one numerical mark. The University Certificate is ungraded – it is either passed or failed.

On the feedback sheet the numerical mark for each module will be given. On the final University of York certificate no grade will be given.

## **How the work is marked**

The summative assignments will be marked and then discussed with participants during tutorials in the subsequent residential period.

Each assignment will be marked in the first instance by trained markers. A moderation meeting will take place after assignments for each module have been marked and particular attention will be given to criteria – borderline and failed assessments.

All assessment tasks will be marked following the University of York's guidance for marking assignments at Certificate level. At the start of each marking period there will be an initial standardising meeting run for all markers in order to consolidate understanding on the interpretation of the marking criteria.

The level of work will be verified by the Professional Recognition and Accreditation Board (PRAB).

## **Assessment of draft assignments**

In order for participants to receive feedback on draft assessments, work needs to be submitted to course tutors by email three weeks before the final submission deadline at the latest. This will allow time for tutors to comment on the work and participants to act upon guidance provided so that they can meet this final deadline.

Only one draft of a summative assessment may be submitted for comments.

Draft feedback will constitute:

- formative comments on relevant areas of assessment in the level class descriptors
- any relevant overall general guidance

These comments will be sent back to the participants via email and a read receipt requested.

## Marking criteria

The mark scale for each piece in the final assessment portfolio is 0-100 and marks will be placed in one of the following classes:

40-49 band
50-59 band
60-79 band
80-100 band

Class descriptors (found on p32) refer to broad descriptions of the characteristics expected for each class. The precise mark given for the final assessment will depend on the relative quality with which the criteria have been met. Some criteria are more important than others, hence doing very well on one criterion can sometimes offset doing less well on another.

It is vital that an understanding of the topic, and critical sensitivity to and awareness of the key ideas involved, is demonstrated. As such, for example, a participant who displays a poor grasp of the key ideas of the subject is unlikely to be awarded a high mark even if several of the other criteria have been well addressed.

More guidance on assessment will be provided during the programme.

## Penalties for exceeding word limit

Any assessment that exceeds the maximum word allowance will be penalised by ten marks. For example, a mark of 64 would be converted to a mark of 54. The word limit does not include the reference list or any appendices.

## Feedback to participants

Feedback on Module 1 to 3 assessments will be given during meetings with tutors in the subsequent residential period.

Written feedback regarding the final assessments will be sent to each participant after the final marks are announced.

The feedback will include comments on each of the marking criteria and a highlighted class descriptor grid showing the extent to which each criterion has been met.

Feedback from the formative assignment will be given by email.

## Compensation

In some circumstances, credit may be awarded where a fail mark(s) has been compensated by achievement in other module(s). This will only be the case if it can be demonstrated that the programme's learning outcomes can still be achieved.

If a participant fails one or more modules (i.e. achieves a mark below 40) credit may still be awarded for the failed module(s) provided that:

- (i) no more than 20 credits have been failed, and
- (ii) no module marks are lower than 30, and
- (iii) the rounded credit-weighted mean over all modules (including the failed module(s)) is at least 40

## Reassessment

Participants who have failed modules and for whom the award requirements cannot be met by application of the compensation criteria, will be entitled to reassessment in a maximum of 40 credits-worth of failed modules provided they have failed no more than 30 credits-worth of outright fail modules (i.e. modules less than 30).

To have their work reassessed, the participant must rewrite the final summative assessment(s) of the appropriate module and submit it for marking. The assessment must be submitted in the usual way (see section on Submission of Work) no later than three calendar month from the receipt of marks.

A participant may only be reassessed in a particular module on one occasion.

When a participant is reassessed, the maximum mark awarded for the module is the pass mark of 40.

Participants should note that work that is reassessed may take an increased amount of time to mark due to falling outside the standard marking period. STEM Learning will endeavour to issue the final ratified mark for the whole course within six months of the resubmission.

DRAFT

## Section 6: General Information

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### Complaints and Appeals

Participants with concerns about the course or the STEM Learning should discuss these at an early stage with their course tutor or the course leader. If, after raising the concern informally, there are still unresolved matters, the participant should refer to the procedures for complaints and appeals (see Appendix 1).

### The External Examiner

The External Examiner is appointed by the University of York. The External Examiner is a senior member of another university appointed to ensure that assessment policies and practices are fair and fairly operated; that assessment methods and the structure and content of programmes of study are appropriate; and that comparability of standards with those of other similar institutions are maintained.

The External Examiner is sent details of the programme syllabus and structure and is asked to approve all forms of coursework assessment at the start of the academic year. He or she has the right to see all assessed work contributing to the programme.

At the final meeting of the PRAB, the External Examiner sees a sample of scripts from the top, middle and bottom of the range in order to determine whether internal marking and classifications are of an appropriate standard and are consistent. He or she is also asked to scrutinise the scripts of any borderline candidates, those of participants likely to be failed and those of candidates for whom special circumstances exist. The attention of the External Examiner is drawn to any fail marks and to any mark that has been a matter for dispute between internal examiners.

### Role and responsibilities of external examiners

The role of the External Examiner is to:

- ensure the principles of clarity, equity, consistency and transparency
- ensure that the structure and content of the programmes of study are appropriate
- ensure that the assessment methods are appropriate
- ensure compatibility of procedures and standards with other institutions

The External Examiner is asked to:

- comment and give advice on programme content, balance and structure
- review, evaluate and moderate examinations and other forms of assessment and assessment practices
- assist in the calibration of academic standards through the review and evaluation of the outcomes of the assessment process
- be a member of, and attend, Boards of Examiners, where their signature is required to support the Board's recommendations for awards and recommendations of failure to progress, and ensure fairness and consistency in the decision-making process
- submit a written report on an annual basis, including commentary and judgements on the validity, reliability and integrity of the assessment process and the standards of student attainment

### Statement on Disability

The University of York statement on disability can be found on the University of York website:  
<https://www.york.ac.uk/students/support/disability/policies/statement/>

## Appendices

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### Appendix 1 Appeals and Complaints Procedure

#### 1. Complaints

- 1.1 Any participant with a complaint regarding the course should first contact their course leader.
- 1.2 If the matter cannot be resolved with the course leader, the participant should write to the chair of the Professional Recognition and Accreditation Board who will arrange for the matter to be investigated and for the complainant to receive a written response, including a summary of action taken, if any.

#### 2. Appeals

- 2.1 The National STEM Learning Centre follows the appeals procedure of the University of York. Full documentation can be found in your community group on the STEM Learning website.



## Appendix 2 Programme Specification

### UNIVERSITY OF YORK

#### UNDERGRADUATE PROGRAMME SPECIFICATION

<b>This document applies to participants who commenced the programme(s) in:</b>	Certificate in Science Education and Leadership (Science Technician)
<b>Awarding institution</b>	<b>Teaching institution</b>
University of York	STEM Learning National STEM Learning Centre (NSLC)
<b>Department(s)</b>	
N/A	
<b>Award(s) and programme title(s)</b>	<b>Level of qualification</b>
Certificate in Science Education and Leadership (Science Technician)	Level 4/Certificate
<b>Interim awards available</b>	
N/A	
<b>UCAS code</b>	
N/A	
<b>Admissions criteria</b>	
<p><b>You are required to have:</b></p> <ul style="list-style-type: none"> <li>• at least three years' experience as a school or college science technician</li> <li>• experience as senior or team leader technician or someone aspiring to the role</li> <li>• support from a named supporter within your institution. The supporter should be someone who has been awarded an Honours degree</li> </ul>	
<b>Length and status of the programme(s) and mode(s) of study</b>	

Programme	Length (years) and status (full-time or part-time)	Start dates or months (if applicable – for programmes that have multiple intakes or start dates that differ from the usual academic year)	Mode		
			Face-to-face, campus-based	Distance learning	Other
Certificate in Science Education and Leadership (Science Technician)	1 year part-time				Blended
Language of study		English			
Programme accreditation by Professional, Statutory or Regulatory Bodies (if applicable)					
Not at present					

## Educational aims of the programme

STEM Learning provides inspirational and innovative professional development for STEM teachers, technicians, lecturers and teaching assistants from across the UK. We believe a quality education system depends on the quality of its technicians. This programme aims to support school or college science technicians in their leadership roles, offering them an enriching educational experience that is tailored to their needs.

STEM Learning utilises a wide variety of effective and innovative teaching methods to ensure that you will be:

- encouraged to think reflectively, critically and independently
- encouraged and supported to maintain an enthusiasm for the subject area
- provided with knowledge and understanding of leadership and management and its application in your workplace
- provided with stimulating and relevant modules relating to your aspirations and needs which will equip you with confidence and the ability to enhance your personal development
- equipped with a variety of generic study skills appropriate to this level of study

## Intended learning outcomes for the programme – and how the programme enables you to achieve and demonstrate the intended learning outcomes

*This programme provides opportunities for you to develop and demonstrate knowledge and understanding qualities, skills and other attributes in the following areas:*

*The following teaching, learning and assessment methods enable you to achieve and to demonstrate the programme learning outcomes:*

### A: Knowledge and understanding

You will demonstrate knowledge and understanding of:

1. a variety of policies and procedures that can enhance the effectiveness of the technical service
2. the key areas of leadership and management and the relationships between these and their application
3. methods of effective training
4. factors influencing effective performance, within a team environment

Learning or teaching methods and strategies (relating to numbered outcomes):

- tutorials (1, 2, 3, 4)
- facilitated workshops (1, 2, 3, 4)
- practical sessions (3)
- group working (1, 2, 3, 4)
- private study (1, 2, 3, 4)
- web-based study (1, 2, 3, 4)
- work-based assignments (1, 2, 3, 4)

Types or methods of assessment (relating to numbered outcomes):

- workbooks (1, 2, 3, 4)
- essays and written reports of work-based assignments (1, 2, 3, 4)

### B: (i) Skills - discipline related

You will be able to:

Learning or teaching methods and strategies (relating to numbered outcomes):

<ol style="list-style-type: none"> <li>1. demonstrate a command of subject-specific skills including application of knowledge, as well as proficiency in intellectual skills</li> <li>2. apply a combination of skills to lead effective training exercises</li> <li>3. assess your role, influenced by a variety of learning sources including guided learning, team work and independent study</li> <li>4. use problem-solving and decision-making skills to plan, execute and present an independent piece of work within a supported framework, to address changes in institutional practice</li> <li>5. demonstrate effective use of communication and information technology</li> <li>6. select and organise a range of material to produce a written argument</li> </ol>	<ul style="list-style-type: none"> <li>• tutorials (1, 3, 4, 5)</li> <li>• facilitated workshops (1, 2, 5)</li> <li>• practical sessions (2, 5)</li> <li>• group working (1, 2, 5)</li> <li>• private study (1, 2, 3, 4, 5, 6)</li> <li>• web-based study (1, 3, 4, 5, 6)</li> <li>• work-based assignments (1, 2, 3, 4, 5, 6)</li> </ul> <p>Types or methods of assessment (relating to numbered outcomes):</p> <ul style="list-style-type: none"> <li>• workbooks (1, 3)</li> <li>• essays and written reports of work-based assignments (1, 2, 3, 4, 5)</li> </ul>
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**B: (ii) Skills - transferable**

<p>You will be able to:</p> <ol style="list-style-type: none"> <li>1. gain confidence</li> <li>2. work in a team and develop group interaction skills</li> <li>3. make independent judgements</li> <li>4. articulate and argue effectively</li> <li>5. present written work to an acceptable standard</li> <li>6. show effective communication skills</li> <li>7. manage time and show organisational skills</li> </ol>	<p>Learning or teaching methods and strategies (relating to numbered outcomes):</p> <ul style="list-style-type: none"> <li>• tutorials (1, 3, 4, 5, 6, 7)</li> <li>• facilitated workshops (1, 2, 3, 4, 5, 6, 7)</li> <li>• practical work (1, 2, 3, 4, 6)</li> <li>• group working (1, 2, 3, 4, 5, 6, 7)</li> <li>• private study (1, 2, 3, 4, 5, 6, 7)</li> <li>• web-based study (1, 2, 6, 7)</li> <li>• work-based assignments (1, 2, 3, 4, 5, 6, 7)</li> </ul> <p>Types or methods of assessment (relating to numbered outcomes):</p> <ul style="list-style-type: none"> <li>• workbooks (1, 3, 4, 6, 7)</li> <li>• essays (1, 2, 3, 4, 5, 6, 7)</li> <li>• written reports of work-based assignments (1, 2, 3, 4, 5, 6, 7)</li> </ul>
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**C: Experience and other attributes**

<p>You will be able to:</p> <ol style="list-style-type: none"> <li>1. participate in a shared learning environment for an adult learner</li> <li>2. apply your learning back in the workplace in collaboration with a variety of other colleagues</li> </ol>	<p>Learning or teaching methods and strategies (relating to numbered outcomes):</p> <ul style="list-style-type: none"> <li>• tutorials (1, 3, 4)</li> <li>• facilitated workshops (1, 3, 4, 5)</li> <li>• practical sessions (1, 2, 3, 4)</li> </ul>
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<ol style="list-style-type: none"> <li>3. plan and deliver continuing professional development for colleagues</li> <li>4. collaborate with colleagues and other participants</li> <li>5. employ a range of techniques to enable you to create a high performing team</li> </ol>	<ul style="list-style-type: none"> <li>• group working (1, 2, 4, 5)</li> <li>• private study (3)</li> <li>• web-based study (1, 4)</li> <li>• work-based assignments (1, 2, 3, 4, 5)</li> </ul> <p>Types or methods of assessment (relating to numbered outcomes):</p> <ul style="list-style-type: none"> <li>• workbooks (1, 2, 3, 4, 5)</li> <li>• essays (1, 2, 3, 4, 5)</li> <li>• written reports of work-based assignments (2, 3, 4, 5)</li> </ul>
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**Relevant Quality Assurance Agency benchmark statement(s) and other relevant external reference points (e.g. National Occupational Standards, or the requirements of Professional, Statutory or Regulatory bodies)**

The following QAA benchmark statements (threshold level) were used as guidance:  
General Business & Management and Biosciences (2007).

**University award regulations**

To be eligible for an award of the University of York a student must undertake an approved programme of study, obtain a specified number of credits (at a specified level(s)), and meet any other requirements of the award as specified in the award requirements, programme regulations, and other University regulations (e.g. payment of fees). Credit will be awarded upon passing a module's assessment(s) but some credit may be awarded where failure has been compensated by achievement in other modules. The University's award and assessment regulations specify the University's marking scheme, and rules governing progression (including rules for compensation), reassessment, award requirements and degree classification. The award and assessment regulations apply to all programmes: any exceptions that relate to this programme are approved by the University Teaching Committee and are recorded at the end of this document.

**Departmental policies on assessment and feedback**

Detailed information on assessment (including grade descriptors, marking procedures, word counts etc.) is available in the written statement of assessment which applies to this programme and the relevant module descriptions. These are available in the student handbook and on the STEM Learning website.

Information on formative and summative feedback to students on their work is available in the written statement on feedback to students which applies to this programme and the relevant module descriptions. These are available in the student handbook and on the STEM Learning website.

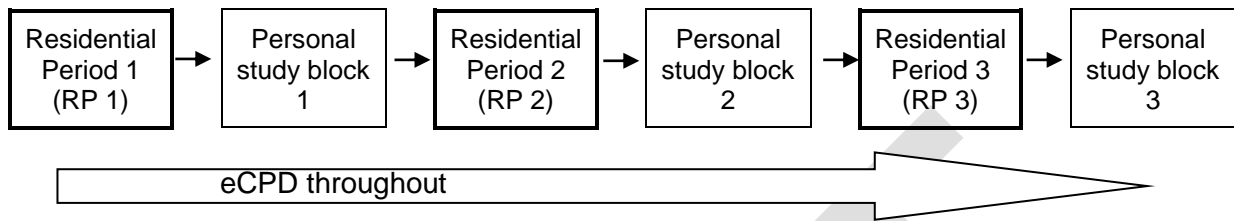
**Are electives permitted?**

No

**Can a Languages For All (LFA) module be taken *ab initio* (i.e. beginner level) in Stage 1?**

N/A

**Diagrammatic representation of the programme structure**



**Diagrammatic representation of the timing of module assessments and reassessments, and the timing of departmental examination or progression boards**

Autumn term 2016	Spring term 2017	Summer term 2017	Autumn term 2017
Mod 1 Formative assessment Mod 1 Summative assessment	Mod 2 & 3: assessments set	Mod 4 assessment set	Exam board

## Overview of Modules

### Core Module Table

Theme title	Module	Credit level <sup>1</sup>	Credit value <sup>2</sup>	Prerequisites	Assessment rules <sup>3</sup>	Timing (term and week) and format of main assessment <sup>4</sup>	Independent Study Module? <sup>5</sup>
You as a Leader	1	L4 Cert	10			AuT	
Working in Teams	2	L4 Cert	10			SpT	
Leadership of Continuing Professional Development	3	L4 Cert	20			SpT	
Management of a Technical Service	4	L4 Cert	20			SuT	

<sup>1</sup> The **credit level** is an indication of the module's relative intellectual demand, complexity and depth of learning and of learner autonomy. Most modules in postgraduate programmes will be at Level 7/Masters. Some modules are permitted to be at Level 6/Honours but must be marked on a pass/fail basis. See University Teaching Committee guidance for the limits on Level 6/Honours credit.

<sup>2</sup> The **credit value** gives the notional workload for the module, where 1 credit corresponds to a notional workload of 10 hours (including contact hours, private study and assessment).

<sup>3</sup> **Special assessment rules** (requiring University Teaching Committee approval)

P/F – the module is marked on a pass/fail basis (NB pass/fail modules cannot be compensated)

NC – the module cannot be compensated

NR – there is no reassessment opportunity for this module. It must be passed at the first attempt

<sup>4</sup> AuT – Autumn Term, SpT – Spring Term, SuT – Summer Term, SuVac – Summer vacation

<sup>5</sup> **Independent Study Modules** (ISMs) are assessed by a dissertation or substantial project report. They cannot be compensated (NC) and are subject to reassessment rules which differ from 'taught modules'. Masters programmes should include an ISM(s) of between 60 and 100 credits. This is usually one module but may be more.

### Quality and Standards

The University has a framework in place to ensure that the standards of its programmes are maintained, and the quality of the learning experience is enhanced.

Quality assurance and enhancement processes include:

- the academic oversight of programmes within departments by a Board of Studies, which includes student representation
- the oversight of programmes by external examiners, who ensure that standards at the University of York are comparable with those elsewhere in the sector
- annual monitoring and periodic review of programmes
- the acquisition of feedback from students by departments

More information can be obtained from the Academic Support Office:

<http://www.york.ac.uk/about/departments/support-and-admin/academic-support/>

**Date on which this programme information was updated:**

1st September 2016

**Departmental web page:**

<https://www.stem.org.uk/>

#### Please Note

The information above provides a concise summary of the main features of the programme and learning outcomes that a typical participant might reasonably be expected to achieve and demonstrate if he or she takes full advantage of the learning opportunities that are provided.

Detailed information on learning outcomes, content, delivery and assessment of modules can be found in module descriptions.

STEM learning Centre reserves the right to modify this overview in unforeseen circumstances, or where processes of academic development, based on feedback from staff, participants, external examiners or professional bodies, require a change to be made. Participants will be notified of any substantive changes at the first available opportunity.