

IOP Institute of Physics

TSST COURSE AUDIT FORM

This form is designed to allow community based panels of teachers to evaluate each other's course, facilitated by the Institute of Physics.

Courses which meet the required standard will be deemed to have received IOP-enabled community approval.

Evaluators will be primarily looking at consistency between course objectives/outcomes and mode of delivery. The audit form is designed to test the coherence of the course as described. Individual courses may vary in length and it is for individual participants to decide which advertised length suits their needs best.

However, based on community feedback, it was felt that it would be helpful to provide some guidance as to specific aspects. Most specific recommendations are given in the Notes columns. In addition it was felt that a TSST course securing IOP approval would normally be expected to take 30-50 hours to complete, excluding unmonitored independent learning time. Please note that a course submitted for auditing will not be penalised if it does not meet a stated guideline.

However, the approval panel will expect to see some justification.

Institute of Physics will publish details of all community approved courses on the IOP website.

Name of lead school	The Hermitage Academy
Lead contact	Miss V Craggs
Date submitted	13/09/2018

Course summary	Notes
<ul style="list-style-type: none"> • This course aims to provide attendees with a solid foundation in the key concepts, skills and common misconceptions which will enable them to deliver successfully the Physics component of the GCSE Science Curriculum. • We aim to provide you with academic challenges as well as practical insight to enrich your teaching and the learning experience of your students. • We will focus on the practical tasks as well as the theoretical side of the curriculum. • The course is designed to enhance the physics subject knowledge of non-specialist teachers, increase the experience and confidence of delegates in the use of practical works and demonstrations to assist in delivery of content, provide contextual and pedagogical ideas for the delivery of physics content. • Expected outcomes are that delegates will be able to clearly explain a given physics topic including addressing any misconceptions, delegates will be able to plan and deliver an effective physics lesson including the use of practical demonstrations or student practical work. 	Short description of the course (e.g. objectives and expected outcomes)

	Subject area (indicate number of hours)					
Mode of delivery	Energy	Motion & Forces	Waves	Electricity & electromagnetism	Matter & Space	Other, if any, specified below:

Face to Face (Presentations, lectures, guided group tutorial work with tutor present)	4	5	5	5	5	
Practical (Hands on use of apparatus working individually or small groups. Observation of demonstrations is not deemed to be practical work)	1	1.5	1	1.5	1	
Coaching/ Mentoring (One to one or small group sessions involving coaching, mentoring or allied techniques led by an experienced practitioner.)						
Monitored independent learning (e.g. online tutorial work)	1	2	1	2	2	
Other modes (please specify below)	0.5	0.5	0.5	0.5	0.5	Pedagogical application and peer sharing
Total hours	6.5	9	7.5	9	8.5	40.5

Please provide further <i>brief</i> detail on the following aspects of the course	Notes
<p>Practical Work</p> <p>Specific sessions are included on the required practical tasks at GCSE along with getting the most out of practical tasks in physics. All sessions have a practical element.</p> <p>Instruction on practical work is embedded in the topic session, is hands on and is focussed on how to use practical to support the delivery of subject content. There will also be an opportunity for delegates to request ideas for practicals for specific topics.</p>	<p>Specify what nature is – e.g. embedded in related session/standalone/skills focussed, work in pairs/groups. Also include Health and Safety measures in place.</p>
<p>Subject knowledge</p> <p>Following a self-diagnostic the programme was tweaked to take into account attendees strengths and areas for improvement.</p>	<p>Please give more details on methodology of subject knowledge (e.g. lecture, practice questions, peer</p>

<p>Subject knowledge is audited pre course and then is delivered via lecture, small group activity and past questions. The level of detail or focus area is based on the needs of the delegates.</p> <p>Teaching is instructional, and learning facilitated around exam board specifications and guidance with past paper GCSE questions interspersed and gap tasks are past paper questions. Group work and activities in the sessions allow facilitators to address inconsistencies/ disparities in subject knowledge within the group.</p>	<p>tutorial, diagnostic testing)</p>
<p>Pedagogical Content Knowledge</p> <p>Sharing of own and each other's practice to discuss misconceptions, next steps and best ways to T&L.</p> <p>Pedagogy is embedded in the subject knowledge content and includes addressing common misconceptions, contextualising, dealing with unexpected questions and useful analogies.</p>	<p>Give further details on methodology used (e.g. pupils, misconceptions/naïve conceptions)</p>
<p>Research Informed Practice</p> <p>Use of research from IoP (i.e., the new paradigm in teaching energy) along with those from my current T&L focus within school (i.e. The learning Scientists)</p> <p>Research is used when suggesting certain types of pedagogical methodology. Where ideas from research are used the source article will be made available to delegates. The Academy has a reputation for research informed practice and has worked with Newcastle University on such programmes. This learning will be applied to the course in order to enrich it.</p>	<p>How do you propose to embed the results of research informed best practice (e.g. access to research articles)</p>
<p>Handling of Mathematical Requirements</p> <p>A specific focus in the “Getting the most out of Practical Tasks in Physics” session</p> <p>Mathematical requirements are addressed as they arise within the context of subject content and practical work. Data handling and interpretation addressed within group activities.</p>	<p>e.g. handling of graphical techniques, proportionality, errors</p>
<p>Participant Assessment Arrangements</p> <p>Diagnostic testing with gap tasks</p> <p>The main mode of assessment is the diagnostic test at the end of the course but there is also a short homework task for each session including planning 2 lessons delivering a small part of these and receiving feedback on these.</p>	<p>Use of various modes e.g. lesson observation, portfolio, diagnostic testing, etc.</p>
<p>Quality Assurance Mechanisms</p> <p>Delivered by facilitators in weekly evaluations and monitored by the Director of Teaching School who maintains DfE reporting.</p>	<p>Mention use of any form of quality assurance – use of validated material, external</p>

<p>All materials are prepared in house by the staff delivering the course. Teacher 1 is a qualified physics teacher with a Masters in Physics. Teacher 2 is a Head of Department with 10 year experience.</p>	<p>validation or accreditation. Please include qualifications of staff.</p>
<p>Individualisation for Participants</p>	<p>Mention any separate routes possible, and how those routes are decided.</p>
<p>Individual and small group work enable me to support those who need me. The results of the subject knowledge audit inform lectures and students can be grouped for activities according to their needs. In the open sessions content is entirely delegate led and throughout the course there are opportunities for individuals to ask questions to ensure their individual needs are met.</p>	
<p>Course Evaluation Mechanism</p>	<p>Mention evaluation by participants, or external body, if you intend to publish survey results etc.</p>
<p>Monitored by evaluation sheets completed by participants and summarised by facilitators and sent to Director of teaching School to oversee. Later sessions are tweaked as required. Assess the quality of the students produced work and success in diagnostic testing. Survey the delegates at the end of the course.</p>	
<p>Lifelong Learning of Participants</p>	<p>The TSST courses are inevitably of limited duration. Explain how participants are enabled to acquire the skills for autonomous learning beyond the course itself.</p>
<p>Participants are given a reading list at the start – these texts are used in gap tasks. Provide students with a variety of resources to continue their learning. Share email addresses for the purpose of networking</p>	