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**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.**

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| **Name of lead school** | Bitterne Park School |
| **Lead contact** | Paul Tripp |
| **Date submitted** | 11 September 2018 |

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| **Course summary** | **Notes** |
| **Objectives: For the participants to improve their subject knowledge and pedagogy in Physics and hence further improve the quality of teaching of Physics in Key Stage 3 and Key Stage 4.**  **Outcomes:**  **Participants will have greater knowledge and confidence to teach key areas of Physics from key stage 3 to GCSE. They will have improved subject knowledge of physics including the development of key ideas and planning an effective 5-year secondary curriculum.**  **They will have confidence to teach the Required Practicals at GCSE level and have strategies to help students prepare for the exam questions which will be based on these experiments.**  **The main focus of the sessions will follow the course from 2017-18 as outlined below though with a few slight amendments to certain activities based on participants’ comments and feedback.** | Short description of the course (e.g. objectives and expected outcomes) |

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| |  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | --- | |  | **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) | 2 | 2 | 2 | 2 | 2 |  | | Practical (Hands on use of apparatus working individually or small groups. Observation of demonstrations is not deemed to be practical work) | 2 | 3 | 1 | 3 | 1 |  | | Coaching/ Mentoring (One to one or small group sessions involving coaching, mentoring or allied techniques led by an experienced practitioner.) | 1 | 1 | 1 | 1 | 1 |  | | Monitored independent learning (e.g. online tutorial work) | 2 | 2 | 2 | 2 | 2 |  | | Other modes (please specify below) |  |  |  |  |  |  | | **Total hours** | 7 | 8 | 6 | 8 | 6 | **Total = 35** |  |  |  | | --- | --- | | **Please provide further *brief* detail on the following aspects of the course** | **Notes** | | **Practical Work** | 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. | | Incorporated into the sessions as well as one full day dedicated session to teaching GCSE required practicals. All practical work will be conducted individually or in pairs. All relevant risk assessments will be completed in advance in accordance with school policy. Radioactive sources will be introduced along with their safe use and handling. | | **Subject knowledge** | Please give more details on methodology of subject knowledge (e.g. lecture, practice questions, peer tutorial, diagnostic testing) | | Diagnostic testing will be used and reviewed throughout the course as well as short lectures/ didactic sessions. Much of the learning will be through a series of practical and theoretical application tasks with links to GCSE questions where appropriate. | | **Pedagogical Content Knowledge** | Give further details on methodology used (e.g. pupils, misconceptions/naïve conceptions) | | Methodology will incorporate techniques from evidence-based general teaching practice along with science-specific and physics specific teaching strategies from the Institute of Physics, the Association of Science education and others. Common misconceptions will be highlighted along with strategies to challenge them. | | **Research Informed Practice** | How do you propose to embed the results of research informed best practice (e.g. access to research articles) | | As stated above the strategies championed will be from a variety of research-based sources (including those already mentioned along with John Hattie’s meta-analysis of educational research). In addition the structure and approach of many of the units follows the “Supporting Physics Teaching” models provided by the Institute of Physics.  Practical sessions and practical pedagogy are supported with evidence from the IoP website, the Association of Science Education and the Gatsby Foundation’s research on “Good Practical Science”.  As well as the above, articles from “Physics Education” are available to participants and inform development of pedagogy. | | **Handling of Mathematical Requirements** | e.g. handling of graphical techniques, proportionality, errors | | All ideas for the teaching of mathematical content has been developed with experienced maths practitioners and recommendations from the Association of Science Education and the Institute of Physics in line with the requirements of the 3 main exam boards.  The teaching of physics using mathematical models of reality will be included in every session. | | **Participant Assessment Arrangements** | Use of various modes e.g. lesson observation, portfolio, diagnostic testing, etc. | | As previously mentioned, diagnostic testing will be used throughout along with lesson observations, learning walks and peer observations where practicable. Completion of gap tasks and coaching will contribute to the overall ongoing assessment. | | **Quality Assurance Mechanisms** | Mention use of any form of quality assurance – use of validated material, external validation or accreditation. Please include qualifications of staff. | | Three of the sessions will be based on sessions delivered for the IoP at Thornden School, Hampshire, in November 2016, March 2017 and May 2017. All other sessions will be based on the template used for these sessions. Each session was rated “outstanding” by every participant in terms of overall quality of the session. The course leader is Paul Tripp, who has led the IoP sessions at Thornden School.  The TSST Physics course was observed by the NCTL in 2015-2016 and was validated as a strong and successful training course. | | **Individualisation for Participants** | Mention any separate routes possible, and how those routes are decided. | | The course will be tailored to individual needs and requirements based on the initial audit and on-going coaching and feedback throughout the session and in the end-of-session evaluations. | | **Course Evaluation Mechanism** | Mention evaluation by participants, or external body, if you intend to publish survey results etc. | | Evaluation will be done at the end of every session and opportunities for feedback throughout the session and between sessions through observations (where possible) and individual coaching. | | **Lifelong Learning of Participants** | The TSST courses are inevitably of limited duration. Explain how participants are enabled to acquire the skills for autonomous learning beyond the course itself. | | During every session, participants will be given details of sources of further information along with embedding the ideas of the importance of research based practice. Emphasis will also be given to the importance of physics as a facilitating academic subject.  Advice and support via email is offered after the course is finished. Participants from the 2017-2018 course continue to contact us to ask for advice and ideas. This support will continue as long as participants and ex-participants request it.  In addition to this, throughout the course we reference sources of additional information for aspects of Physics subject knowledge and pedagogy as detailed earlier. | |  |  |  |  |  |  |  |  |