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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** | Manor CE Academy |
| **Lead contact** | Beth Hartwell |
| **Date submitted** | September 2018 |

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| **Course summary** | **Notes** |
| **Overview**The programme will be led from an outstanding academy (P8 score of +0.46) with a high performing physics department (44% A\*-A in 2017). A lead school within the TSA, a successful teaching school who have trained over 200 teachers. The TSA has an outstanding record of delivering engaging and effective training (100% of Ebor TSA facilitators were rated as good or outstanding in 2018). This project is in collaboration with Physics Partners who have agreed to work with us as a strategic partner. SLE’s will be used to deliver programme content. All facilitators have a record of dramatically increasing attainment within physics. There is a designated project lead who is a full-time member of staff within the teaching school. The project lead will dedicate 30 days towards the design, delivery and evaluation of the programme. The project lead has a background in secondary science teaching and currently is a lead practitioner for teaching and learning (Science). The teaching school will support processes including; admin staff, venue and clear support from the CEO of the MAT. The MAT has a school improvement team which will support the programme. **Network**The TSA are using their extensive network of schools to promote the programme. The TSA currently has excellent relationships with several schools on the North Yorkshire coast (either through ITE or school to school support). We also have a close relationship with Diocese of York who will support the programme. We will utilise our outstanding relationship with York St John to identify past PGCE science graduates who would be eligible and would benefit from this programme.Lower attaining schools will be identified and encouraged to participate. The CEO from the MAT is supportive and the TSA will work closely with the head teachers to ensure that participants are released from school. The programme will be designed to minimise cover implications (twilight sessions and in school coaching will be used). There is a need for coaching and mentoring within our schools in the region. Our programme will be designed so that there are elements of the training is delivered within schools such as lesson observations and coaching to improve confidence within the subject. This will not only improve teaching but also support retention of teachers within the region. We have capacity to upscale the programme if there is demand in the region. **The programme**The programme is co-designed and delivered by The TSA and Physics Partners. All delegates will receive certification by the TSA and Physics Partners upon completion of the programme. This will be a one year programme with networking opportunities within year two. The programme consists of 1 x 4 hour session, 5 x 2.5 hour twilight sessions and 4 x 1:1 coaching sessions. Each session has a focus on the national curriculum and a teaching and learning focus to develop pedagogy. Physics partners will also supply to all delegates a library of 200 experiments with notes for teachers, technicians and pupils. There will be a research project to carry out throughout the programme, these outcomes will be shared within the final session. There will be multiple opportunities to observe outstanding practice.The programme with focus on KS3 and KS4 with an enhancement of KS5. There will be base line assessment at the start of the programme so that bespoke sessions can be planned to meet the needs of the cohort. SLEs will be facilitating the programme. All facilitators are outstanding physics practitioners who have raised attainment within their current setting. All facilitators have physics degrees and all been a Head of Science within a school. All facilitators have leadership roles which have experience of designing and delivering professional development. **Evolution methods**During the programme the participants with continuously self-evaluate their physics pedagogy and this will inform their two year action plan. In addition to this there will be a baseline survey which will be carried out at the beginning of the programme. The programme has the flexibility to change the sessions to meet the needs of the cohort  The project lead at the TSA will quality assure the programme. This will include observation of the training that takes place, quality assuring lesson feedback and quality assuring coaching conversations. This will ensure that the programme is consistently of high quality. There will be an external NLE evaluating the project. There will be three evaluation points (at the end of the autumn, spring and summer term). This process will consist of programme visits, feedback questionnaires, lesson observations, head teacher feedback and attendance figures. Heads of Science will also be contacted to gauge the overall impact of the programme. The programme can be altered from the findings of the evaluation points. Findings will be reported back to the appropriate boards and stakeholders. The end-line survey will be carried out a term after the end of the programme to evaluate its impact on both participants and pupils within the schools that they teach. Key stage 3 and 4 data will be analysed to evaluate trends within increasing pupil outcomes.  | Short description of the course (e.g. objectives and expected outcomes)**Programme Aims**1. To ensure that non specialist teachers of physics develop effective teaching practices
2. To safeguard teachers of physics so that they are supported by subject specialists within the classroom to increase teacher retention.
3. To enhance engagement with physics teaching and reduce misconceptions within the subject.
4. For pupils to develop love of learning in physics and increase participation at KS5.
5. To provide a strong and active physics and science network in the region which is a beacon of good practice

**Expected outcomes on the participant*** Develop non-specialist physics practitioners pedagogy
* Create ‘Outstanding’ physics practitioners
* Increase confidence to explore physics through practical work
* To continue teaching after attending the programme (retention)
* Increase confidence in planning, teaching and assessing strategies to enhance engagement in physics
* Increase confidence in planning, teaching and assessing strategies to challenge and reduce misconceptions in physics
* Increase confidence in planning for appropriate differentiation in physics
* Increase confidence in planning and delivering assessment appropriate for physics, in line with best practice
* Increase confidence in leading physics curriculum and updating planning (where needed due to changes in new specification)
* Increase confidence in sharing new learning and experience with colleagues in their department re physics pedagogy.

**Expected impact in the classroom*** Improved pupil outcomes in physics – all ages and abilities
* Increased in pupils making links to physics and its application to outside world/real life examples
* Increase support for pupils to explore physics programmes at KS5
* Reduced misconceptions and improving awareness to problem solve in physics
* Developing love of learning in physics. Opportunity to explore physics outside classroom (extra-curricular etc)
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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 | 1  | 1  | 2  | 1  |   All sessions will consist of both face to face and practical work  (14 hours in total)  |
| Practical (Hands on use of apparatus working individually or small groups. Observation of demonstrations is not deemed to be practical work) |  2 |  1 |  1 |  2 |  1 |
| Coaching/ Mentoring (One to one or small group sessions involving coaching, mentoring or allied techniques led by an experienced practitioner.) | 8  | 8 hours of 1:1 coaching/mentoring depending on the needs of the participant    |
| Monitored independent learning (e.g. online tutorial work) | 1.2  | 1.2  | 1.2  | 1.2  | 1.2  | Monitored pre and post ‘face to face session’ activity and reflection   |
| Other modes (please specify below)Participants to carry out an enquiry project to improve a specific aspect of their practice  |    4   |  Dependant on their enquiry project of choice  |
| **Total hours** | 5.2 | 3.2 | 3.2 | 5.2 | 3.2 | TOTAL : 32  |

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| **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.  |
| Practical work will be embedded into all sessions. Sessions will be embed and promote practical skills. All sessions will take place within a laboratory and will be supported by an experienced science technician. There will be one session which focuses on practical skills and how the required practical are embedded into the curriculum. All heath and safety measure are in place, including when handling radioactive material. All practical requisitions forms must be sent in advance to ensure they meet rigorous health and safety measures.  |
| **Subject knowledge** | Please give more details on methodology of subject knowledge (e.g. lecture, practice questions, peer tutorial, diagnostic testing) |
| Please see the mode of delivery table for a breakdown of the programme. A variety of facilitation techniques will be used within the session. The topics covered will be based upon subject knowledge audits are the start of the programme. These technique will include: * Input from the facilitator
* Practical work
* Pair/group work
* Practice questions
* Coaching
* Individual work
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| **Pedagogical Content Knowledge** | Give further details on methodology used (e.g. pupils, misconceptions/naïve conceptions) |
| Pedagogy and subject knowledge will be taught alongside one another. The sessions will cover engagement tools, effective questioning, effective demonstration, promoting problem solving, using models effectively, tackling misconceptions, effective differentiation and assessment strategies.  |
| **Research Informed Practice** | How do you propose to embed the results of research informed best practice (e.g. access to research articles)  |
| Physics partners will also supply to all delegates a library of 200 experiments with notes for teachers, technicians and pupils. There will be a research/enquiry project to carry out throughout the programme; these projects will have clear links to research and recent publications. The enquiry projects will be supported by Huntington Research School. There will be multiple opportunities to observe outstanding practice and share physics resources. |
| **Handling of Mathematical Requirements** | e.g. handling of graphical techniques, proportionality, errors |
| The mathematical requirements will be embedded into the programme. These will include graphical techniques, mathematical requirements within practical skills, how to derive an equations in physics, using multi-step equations, using more than one equation and teaching standard form.  |
| **Participant Assessment Arrangements** | Use of various modes e.g. lesson observation, portfolio, diagnostic testing, etc.  |
| Assessment modes that will be used:* Lesson observation x 2
* Enquiry project presentation
* Reflective writing journal
* Engagement within sessions
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| **Quality Assurance Mechanisms** | Mention use of any form of quality assurance – use of validated material, external validation or accreditation. Please include qualifications of staff.  |
| The project lead at the TSA will quality assure the programme (Director of ITT programme, BSc PGCE).The Director of the teaching school will also over the programme. This will include observation of the training that takes place, quality assuring lesson feedback and quality assuring coaching conversations. This will ensure that the programme is consistently of high quality. Heads of Science will also be contacted to gauge the overall impact of the programme. The programme can be altered from the findings of the evaluation points. Findings will be reported back to the appropriate boards and stakeholders.There will be an external NLE evaluating the project. There will be three evaluation points (at the end of the autumn, spring and summer term). This process will consist of programme visits, feedback questionnaires, lesson observations, head teacher feedback and attendance figures.Senior staff form Physics Partners will also quality assure the programme.  |
| **Individualisation for Participants** | Mention any separate routes possible, and how those routes are decided. |
| Each participant will have a specialist physics coach. Participants will draft development targets at the start of their programme. Each participant will have 4 coaching sessions across the year – two in school and two over the telephone. The visits will occur after their baseline at the start of the programme, and one towards the end of the year to look at progress made. Participants will reflect on impact of programme on their teaching through reflective log. Reflective models will be used (e.g. Brookfield etc).We have adapted the programme (via our booking form) to suit the needs of individual participants.  |
| **Course Evaluation Mechanism** | Mention evaluation by participants, or external body, if you intend to publish survey results etc.  |
| During the programme the participants with continuously self-evaluate their physics pedagogy and this will inform their two year action plan. In addition to this there will be a baseline survey which will be carried out at the beginning of the programme. The programme has the flexibility to change the sessions to meet the needs of the cohort Each session will be evaluated and review by both the TSA and Physics Partners. The end-line survey will be carried out a term after the end of the programme to evaluate its impact on both participants and pupils within the schools that they teach. Key stage 3 and 4 data will be analysed to evaluate trends within increasing pupil outcomes.  |
| **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.  |
| This will be a one year programme with networking opportunities within year two. These will occur termly and will allow the participants to reflect on their progress within the programme.  |

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