

Plan and design physical special effects

Overview

This Standard is about your ability to plan and design physical special effects.

It will involve creating and developing an effect, knowing which materials are the most appropriate and communicating the necessary information to production.

You will need to work in collaboration with a range of production departments in order to design the effect and plan for its implementation. You will also need to work in collaboration with your team and any third party such as private fire crews, so as to ensure the safe, accurate and effective execution of effects.

This Standard is for you if you research, design and plan physical special effects.

Performance criteria

You must be able to:

1. design physical special effects that meet the brief and budget and schedule constraints
2. work in collaboration with other departments and other key personnel when designing and planning physical special effects
3. prepare and present design specifications for physical special effects in expected formats,
4. ensure all aspects of designs and their implementation meet health and safety standards and legislation
5. provide required documents on safety precautions to relevant organisations
6. assess the risks involved and assign appropriate precautions to combat them
7. provide advice and guidance to production at appropriate times and in relevant formats on all aspects of health and safety for effects
8. confirm that designs incorporate all key aspects of effects, including mechanics, chemicals and materials to be used
9. liaise with prop and material manufacturers to ensure all parts are appropriate for intended effects
10. ensure that necessary approvals have been sought and confirmed by production
11. ensure that any testing is conducted in line with safety standards and recorded in appropriate documentation
12. record all aspects of risk assessment and risk management in required formats, providing documentation to others when required
13. suggest and provide alternatives designs, within budget and schedule, when original ones cannot be employed
14. communicate all aspects of designs to relevant people on your team and the production
15. employ competent crew with relevant skills and experience for the job
16. provide documentation and instructions in sufficient detail for team members to produce effects
17. ensure that locations will be returned to a safe state once physical special effects have been executed

Knowledge and understanding

You need to know and understand:

1. how to research and plan required elements and materials for designs
2. how to assess what will be required in terms of materials to create effects, how they will impact on effects and the rationale for their use
3. the mechanics of desired effects and how to recreate them in a convincing manner that meets safety legislation
4. how to simplify the physical special effects process so that it is film friendly
5. different camera formats and technical specifications available including different lenses, formats, framing principles and ratios, mounts, angles of shots, depth of field, principles of perspectives and scale limitations
6. the current legislation and parameters for using physical special effects on a production
7. the production's legal requirements and policies, including health and safety, insurances, budgets and schedules and how these affect physical special effects
8. measures to put in place to ensure safe, accurate and effective execution of effects
9. how to fabricate and implement action props and materials
10. how to use inanimate and articulated dummies and the mechanics involved in using these
11. how to create models and scale up and down from existing elements
12. how to use photographic projections, methods of scaling, digital scanning, printing and rapid prototyping, materials and processes
13. the benefits of assessing locations where possible prior to implementation
14. the challenges of testing effects in workshop conditions and how this can be replicated in both studio and location settings
15. how stunt performers work and the safety parameters they must operate within
16. the hierarchy of production and who needs to be passed information and at which stage of the design process
17. timetable, budget, schedule, constraints and planning of both your department and the needs of other departments

18. the process to follow to gain approval for physical special effects work during production
19. how to employ competent individuals or third party specialists to work collaboratively within a team
20. what can be achieved by post production and visual effects for the effect required

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