



# MANAGING CROWDED SPACES FOR EVENT PLANNERS



# PLAN - PREVENT - REACT

If you are involved with planning for crowds in places where events take place, you need to understand the principles and applications of crowd safety and risk analysis. This course draws on extensive research and experiences gained from crowd management events around the world.

## AIM OF THE COURSE

To develop greater awareness of how individuals and crowds react and behave in places where crowds form. We explore the application of crowd safety and risk analysis techniques to enhance public safety. This approach is outlined in the book "Introduction to Crowd Science" and taught across a range of short courses and at University - Level 5 (Foundation Degree), level 6 BA (Hons) and level 7 MSc.

This short course introduces the delegate to a range of subject materials and is a bridging link between industry experience and further academic studies.

## WHO WILL BENEFIT?

If you are involved in the planning and/or have operational responsibility for events where crowds may gather, then you need to understand crowd safety and crowd risk analysis. The course covers sports, entertainment, shopping, transport, festivals, mass gatherings, street events and places of public assembly. We cover site and venue operations for managers, stewarding and security organizations, police officers with crowd management responsibilities, architects working in the complex and built environment and local authorities with licensing/permitting/approval planning, building control and/or leisure management responsibilities.

## CERTIFICATION

Delegates will be issued with certificates of attendance.

## KEY LEARNING POINTS

- Plan, prevent and react for crowd safety in a wide range of public crowded spaces.
- Identify crowd risks during planning/organising and operational phases.
- Document and present crowd safety management plans and risk assessments.
- Apply crowd risk analysis techniques for planning and managing crowds
- Mitigate the threat from terrorist activity.

## COURSE DELIVERY

The course is delivered by Steve Laws a former career Police Officer who has subsequently qualified as an Event Safety Officer and attained Bachelor Honours degrees in Crowd Safety Management. During the course we will work with your site, events, venues and case studies. We demonstrate the principles and applications of crowd safety and risk analysis for your event, for example, how and when your crowd reaches critical mass, how the effects of design, information and management systems can influence your crowd's behaviour. These are vital elements to understanding crowd safety and risk analysis at your event. We help your staff to understand crowd safety and risk analysis, how to plan for and manage crowds in normal and emergency situations.



The course takes the delegates from basic understanding of crowd safety and risk analysis in places of public assembly and works through the principles of accident and incident causes.

We focus on anticipating and preventing crowd related accidents and incidents in places of public assembly. The courses draw on extensive research and application of Crowd Dynamics over the last 25 years.

## COURSE CONTENT

### DAY 1

#### 1. INTRODUCTION AND OVERVIEW

During this session, we introduce the delegates to the principles and applications of crowd science to crowd risk analysis.

#### 2. THE DIM-ICE RISK MODEL - Presentation/group exercise

In this session, we outline the ways in which design, information and management influences crowd behaviour in a venue or at an event.

#### 3. RAMP ANALYSIS - The routes, areas, movement of crowds over time and profile of the crowd form the basis of the RAMP analysis modelling technique. Focusing on crowd dynamics approaching and departing the site. We outline the principles and applications of RAMP analysis.

#### 4. CROWD DYNAMICS AND CROWD RISKS - Presentation/Group Exercise In this session, we outline the dynamics of crowds. We focus on risks associated with crowd density (static) and requirements for crowd safety when a crowd is moving. We introduce how to calculate safe crowd capacities in a confined space at a venue, street or open air environment.

#### 5. CROWD MONITORING - Presentation/group exercise

Monitoring a crowd and how crowds are influenced by external factors is the focus of this session. We highlight the problem of event and security event professionals' perceptions and how to enhance the early detection of potential crowd problems.

#### 6. RISK ANALYSIS - Presentation/working through examples

In this session, we outline the principles of risk analysis with specific focus on both the public's perception of risk and the professional perception of risk.

## DAY 2

7. **INTRODUCTION TO QUEUEING SYSTEMS - Presentation/working through examples**  
In this session, we cover the principles of queuing behaviour, psychology and dynamics. We introduce the delegates to the general queuing model formula for determining queue build up over time.
8. **EVALUATING NORMAL AND EMERGENCY SAFE EGRESS - Presentation/group exercise**  
Review and analysis using the principles of both crowd dynamics and applying normal and emergency flow rates to accessibility of egress routes/exits at every stage of an event.
9. **SECURITY THREATS - Presentation**  
An examination of current global threats that affect public safety in crowded spaces. We introduce delegates to threat mitigation strategies.
10. **SITE DESIGN CONSIDERATIONS - Lecture/Group Exercise**  
In this lecture, we outline the principles of using a basic connection diagram to assess crowd dynamics within a complex site.
11. **OPTIMISING EMERGENCY RESPONSES - Outline/Group Exercise**  
Determining the resources required to provide optimal resource cover for a complex site has proven to be a very effective tool for cost effective site cover. In this lecture, we cover the principles of using connection diagrams to determine optimal, cost effective, resource deployment.
12. **CROWD SIMULATIONS – Lecture**  
In this lecture, we outline the application of crowd simulations for risk analysis with emphasis on the “good, the bad and the dangerous” use of crowd simulations for major event planning.
13. **DECISION SUPPORT ANALYSIS - Lecture/Group Exercise**  
Assessing and analysing the effective use of resources, where investment is required, assessing communications and their effectiveness for events and determining key areas of vulnerabilities are covered in this lecture and class exercise.
14. **EMERGENCY SITUATIONS – Lecture**  
In this lecture, we cover the human factors during emergency situations with specific focus on behavioural based safety, emergency communications.
15. **CASE STUDY DAY - Outline for tomorrow’s working sessions**  
The delegates are encouraged to bring along their site/event materials to work through the principles and applications of the crowd safety and risk analysis tools. In this session, we outline the course work for the application day

## DAY 3

### 16 COURSE SUMMARY

This is a short talk that covers the key points for the delegates work for the day.

### 17 CASE STUDY SESSION - Outline for working through event planning

The delegates are encouraged to bring along their site/event materials to work through the principles and applications of the crowd safety and risk analysis tools. In this session, we outline the course work.

### 18 YOUR CASE STUDIES - Outline of the exercise

The class splits into groups and applies the crowd risk analysis models to their own events/sites. Delegates work through the task list and apply the risk analysis tools to their site.

### 19 DELEGATES CASE STUDIES - Group presentations

Delegates have the opportunity to present their work, for group discussion and feedback.

### 20 COURSE ROUND UP

A group discussion on the course materials, concludes the course. Delegates will receive a course review guide as an aide-memoire for future event planning.

**For those delegates who want to progress their knowledge and understanding, we cover the progression routes to further course studies and routes through and up to a MSc in Crowd Safety and Risk Analysis.**

For further details and to discuss booking a course please get in touch  
with Steve Laws on the details below:

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