

Imperial College  
London



*Department of*  
**AERONAUTICS**



# Health and Safety Induction Pack

(Updated September 2019)

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## Introduction

We hope you will have a very enjoyable and safe time whilst working or studying in the department and we would ask that you take a few minutes to familiarise yourself with the essential safety information contained in this document recognising that good Health and safety depends on your co-operation. The Aeronautics Department expects staff, students and visitors to recognise that they have a clear duty to take care for the health and safety of themselves and others and co-operate fully with health and safety arrangements made by the department or the University. This pack briefly covers some of our health and safety policies but more comprehensive information for both the Department and the College can be found on our [Health and Safety website](#) (login required)

## Department Layout

The department of Aeronautics is predominantly located in the CAGB building on the Exhibition Road side, however the L50 Laboratory, 10x5 Wind Tunnel and the High Speed Flows Laboratories are located in Roderic Hill and ACE respectively and the Hydrodynamics Laboratory is located in the basement of Skempton room 043A. The Lecture theatres are mainly located in CAGB and Skempton.

## Quick Contacts

<b>Safety Officer</b>	Dr Nigel MacCarthy	Extn 45043	<a href="mailto:n.maccarthy@imperial.ac.uk">n.maccarthy@imperial.ac.uk</a>
<b>First Aid</b>	Ian Pardew	Extn 45060	<a href="mailto:i.pardew@imperial.ac.uk">i.pardew@imperial.ac.uk</a>
	Mirko Kovac	Extn 45063	<a href="mailto:m.kovac@imperial.ac.uk">m.kovac@imperial.ac.uk</a>
<b>Mental Health First Aid</b>	Susan Avery	Extn 45084	<a href="mailto:s.avery@imperial.ac.uk">s.avery@imperial.ac.uk</a>
	Lisa Kelly	Extn 45056	<a href="mailto:l.kelly@imperial.ac.uk">l.kelly@imperial.ac.uk</a>
<b>COSHH assessor</b>	Roland Hutchins	Extn 45060	<a href="mailto:r.hutchins@imperial.ac.uk">r.hutchins@imperial.ac.uk</a>
<b>Emergency</b>	Imperial Security	Extn 4444	
<b>Health Centre</b>		Extn 49375	

## Aeronautics Department Health and Safety Information

The following link;

<https://www.imperial.ac.uk/aeronautics/local/health-and-safety/>

contains all departmental information on our health and safety policies including:

- Fire Evacuation Procedures
- Guide to Experimental work in the Aeronautics Department
- RAFT training
- Unattended Running Safety Policy
- Safety Pack
- Safety Related Staff Structure
- Laboratory Supervisors
- Lone / Out of Hours working

- Electrical Safety
- Laser Safety in Aeronautics
- Downloadable Forms
- Computer Health & Display Screen Assessment
- Other Guidance Notes and Safety Information
- Safety meeting minutes
- Research Proposals and Safety
- Visitors, Contractors and short-term staff

Further information relating to any of these areas or other safety issues can be found at the Imperial College Health and Safety web pages at <http://www3.imperial.ac.uk/safety>

## Safety Induction

It is College Policy that all new staff, undergraduate and postgraduate students undergo a General Safety Induction. *ID Swipe cards will not be issued until this has been undertaken.*

Undergraduate and taught Postgraduate students must attend the scheduled Induction session held during the first week of the Autumn term (details of which are issued to students on their arrival and further information is contained in your 'Start of Session' packs). Students who arrive after the scheduled Induction session must arrange an induction session with the Teaching Office ([ae.office@imperial.ac.uk](mailto:ae.office@imperial.ac.uk))

New Non-taught postgraduates and all other staff should complete the on-line safety training course called MOST (Month One Safety Training). There is a test at the end of this, which must be passed. Please visit this link for more information: <http://www.imperial.ac.uk/safety/most/>

### **Induction Requirements:**

- a. Undergraduates: Attend the Safety Induction course at the start of term  
New post-graduates and staff:
  - Receive 'day-one' induction from your supervisor or manager
  - Complete the on-line course: MOST
- b. To obtain your ID Swipe Card, you must have taken one of the above. Any student arriving at the Security desk without having completed the safety training will not be issued with a swipe card. Remember to also take your college registration form.

The security office (169 Sherfield Building) is open Monday to Friday 08.30-10.30, 12.00-14.00 and 15.45-16.45. For further information requiring your ID swipe card please go to

<http://www.imperial.ac.uk/estates-facilities/security/id-cards/>

Further safety induction information can be found at

<http://www.imperial.ac.uk/staff-development>

## Health Centre

The Health Centre can be contacted on extension 49375 in normal working hours (08.00 - 18.00).

OUT OF HOURS: contact Sheffield Security on extension 4444.

## Aeronautics Department Emergency Procedures

### IN AN EMERGENCY

1. Dial **4444** or **020 7589 1000** from a mobile phone.
2. Tell security what the issue or emergency is.
3. Give your room location in CAGB. If you are in a corridor, information about your exact location is given on the signs at each end of the corridor (or above a fire call point)

### IF YOU DISCOVER A FIRE

1. Immediately operate the nearest alarm call point.
2. Warn people in the vicinity of the fire.
3. Attack the fire, if possible with the appliances provided but without taking personal risks.

**ON HEARING THE FIRE ALARM** (*Continuous Bell L50, High Speed Flows, Bell/Voice message CAGB*)

1. Leave the building by the nearest available exit.
2. Close all doors behind you.
3. Proceed to your Assembly Point.

**For Labs L50, 10x5 Wind Tunnel, High Speed Flows labs go to L50 Car Park (Assembly point B)**

**For all in CAGB go to the Queens Tower car park**

**For those in Skempton go to the Queens Tower car park**

## **IMPORTANT NOTES**

DO NOT USE LIFTS

DO NOT STOP TO COLLECT PERSONAL BELONGINGS

DO NOT RE-ENTER THE BUILDING UNTIL AUTHORISED TO DO SO

DO NOT WALK THROUGH THE BUILDING TO GET TO AN EXIT CLOSER TO THE ASSEMBLY POINT

USE THE NEAREST EXIT, WHICH MIGHT NOT BE YOUR USUAL EXIT

IF THE EXIT DOOR DOES NOT OPEN, PRESS THE GREEN EXIT BREAK GLASS NEXT TO DOOR TO RELEASE

## **RED FIRE TELEPHONES**

These are located on the main lift landing areas. The instructions for the use of the system are situated on an information board next to the telephone.

## **INSTRUCTIONS FOR USE**

- Break glass to obtain key
- Insert key and turn to open box
- Lift handset (this will put you in direct contact with the fire control group)

## **Specific Requirements for Employees and Students**

1. You must attend departmental safety events(s)
2. You must read the college safety policy and the departmental safety policy
3. All accidents and dangerous occurrences must be reported
4. All experimental work must be risk assessed
5. PPE (personal protective equipment) must be worn when directed to do so
6. Procedures to be followed in the event of fire must be known and understood
7. You should know who can give first aid

## **Accidents and Dangerous Occurrences**

A form must be completed using the online SALUS system from the college safety website:

<http://www.imperial.ac.uk/safety/safety-by-topic/accidents--incidents/report-an-incident/>

All Accidents and Dangerous Occurrences must be reported to the [Departmental Safety Officer](#), so that they can be fully investigated.

## Building Access Control

You will be issued with a swipe card by college which will allow you to access the perimeter doors to the department (and some other areas such as the library, computer rooms, student common room etc). The times of access are between 06.00 and 23.59. You must be out of the building before 23.59. If you try to exit later than this time, the swipe reader will not work and you will need to phone security on extn 4444 (0207 589 1000) and explain where you are and why you are still in the building.

### Access levels and requests

Access to certain areas within the College must to be controlled for various reasons, to prevent exposure of the individual to hazardous substances and procedures and for security and legislative compliance.

The College has a Code of Practice covering not only the management aspects of preventing access to sensitive areas, but also how to allow access when required for either routine or emergency purposes.

**Note:** don't hold doors open to potentially unauthorised persons.

All areas within the department are categorised by a "traffic light system" into one of four groups according to the levels of access control required. Labels will be found on doors, immediately above the door handle. Access to these areas for non authorised persons such as cleaners, engineers and contractors may be permitted by a permit-to-work

 <p><b>highly restricted access</b></p>	 <p><b>restricted access</b></p>	 <p><b>limited access</b></p>	<p><b>Uncoded (Unrestricted area)</b></p>
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### Laboratories

Most of the Aeronautics Laboratories have swipe card access. To gain entry, you will need a Laboratory Induction. Please contact the Laboratory Supervisor to arrange a suitable time for the induction. There is an online form (accessed via the Aeronautics Sharepoint Safety site) which can be used to gain

access to labs. This runs an automated approval system going to the Lab Manager before the card is enabled.

## Personal Protective Equipment (PPE)

Personal Protective Equipment is supplied for your safety, and must be used where required. Overalls may be purchased from Mr G. Senior (45041 Composites Suite C&G RM125). UG's will not normally be expected to provide their own safety shoes but PG's and RA's should be aware that there are areas in the department, which require their use. **PLEASE NOTE OPEN-TOED SHOES / SANDALS ARE UNACCEPTABLE IN ALL CASES.**

## Safety Induction Course

It is College Policy that ALL new staff and students attend a Safety Induction.

U.G.'s will attend a safety lecture within the department at the start of the year. If you miss this lecture, please make an appointment with the [Departmental Safety Officer](#).

## Web based Information

The Aeronautics Health and Safety web site is where you will obtain all the information and forms necessary to undertake your study or work;

<http://www.imperial.ac.uk/aeronautics/local/health-and-safety/>

Safety courses and checklists are available on the Imperial College **safety unit** web site:

<http://www3.imperial.ac.uk/staffdevelopment/safety>

Further information is also available on the **occupational health service** web site:


<http://www3.imperial.ac.uk/occhealth>


## Safety notice-board

Information relating to safety and occupational-health issues are displayed on the safety notice-board located on level 2 CAGB building in the corridor outside the Space Laboratory CAGB 224.





## Special Precautions


<p><b>Chemical Hazards</b></p>	
<p>The COSHH assessors are: Roland Hutchins  Jonathan Cole</p>	<p>CAGB 207 (Technology Workshop) Extn: 45439 <a href="mailto:r.hutchins@imperial.ac.uk">r.hutchins@imperial.ac.uk</a>  CAGB 125 (Composites Suite) Extn 45041 <a href="mailto:j.cole@imperial.ac.uk">j.cole@imperial.ac.uk</a></p>
<p>COSHH (Control of Substances Hazardous to Health)</p> <p>COSHH are regulations covering substances that are hazardous to health. Substances can take many forms and include:</p> <ol style="list-style-type: none"> <li>1. <b>chemicals</b></li> <li>2. <b>products containing chemicals</b></li> <li>3. <b>fumes</b></li> <li>4. <b>dusts</b></li> <li>5. <b>vapours</b></li> <li>6. <b>mists</b></li> <li>7. <b>nanotechnology</b></li> <li>8. <b>gases and asphyxiating gases</b> and</li> <li>9. <b>biological agents</b> (germs)</li> </ol> <p>The COSHH assessor must be informed before ANY chemical/hazardous substances are purchased or used in the department. These range from powders to adhesives, paints to cleaning products.</p> <p>An assessment will be carried out, this only takes a few minutes and is a legal requirement.</p> <p>Substances must not be poured down sinks or drains. Disposal of chemicals waste will be arranged through the departmental safety officer.</p>	

<p><b>Electrical Hazards</b></p>	

Electrical Safety Officer: -	Mr Franco Giammaria CAGB 223A extn 45062
<p>Advice on electrical, electronics or Instrumentation can be obtained from Dr MacCarthy (extn 45043) or Mr Giammaria (extn 45062).</p> <p>Consult them before using any electrical equipment other than for scheduled experiments.</p> <p>High voltage experiments or equipment with special hazards require training and approval before work commences.</p> <p>Only departmental electrical equipment can be used within the department (except for approved laptop and phone chargers)</p>	

<b>Lasers</b>	
Laser Safety Officer: -	Dr. N. MacCarthy ( <a href="mailto:n.maccarthy@imperial.ac.uk">n.maccarthy@imperial.ac.uk</a> ), Ext. 45043, Room CAGB 222
<p>Lasers are used in this department under strict control. The areas or labs are marked with the above sign plus other laser related safety information</p>	

<b>Radiation Hazards</b>	
Radiation Advice: -	Mr G. Senior ( <a href="mailto:g.senior@imperial.ac.uk">g.senior@imperial.ac.uk</a> ), Ext. 45041, Room CAGB 125
<p>The Radiation Signs indicate danger areas. Ionising radiation is used in this department under strict control. The areas are marked with the above signs</p>	

<b>Biological Hazards</b>	
Biological Safety Officer: -	Professor D. Doorly ( <a href="mailto:d.doorly@imperial.ac.uk">d.doorly@imperial.ac.uk</a> ), Ext. 45049, Room CAGB 313A
<p>Advice on biological issues or experiments can be obtained from Professor Doorly. Consult him before any biological related experiments are performed.</p>	

## First Aid (Normal College Hours)

At the end of each corridor in Aeronautics, a sign gives information on who the local first aiders are.

### ASSISTANCE

Assistance may be obtained from the Aeronautics First Aiders;

#### **Internal Tel.**

Mr. I.Pardew	Workshop CAGB 149 or CAGB 207	45060 or 45439
Dr Mirko Kovac	CAGB 326	45063

### FIRST AID HINTS

1. Ensure your own safety first.
2. Call for the assistance of a First - Aider or **Dial 4444**  
(**020 7589 1000** from mobile)
3. Never move an unconscious casualty.
4. Stop bleeding by direct pressure to wound and elevating the limb.
5. Ensure patient has free access to fresh air. If he is not breathing attempt mouth to. mouth resuscitation.
6. Never leave your patient until qualified help arrives.

## FIRST AID KITS



First Aid Kits are available where the White Cross Sign is displayed. ( Green Background )

## ELECTRIC SHOCK

1. Ensure your own safety first.
2. Do not take risks of shock yourself.
3. Isolate supply if possible.
4. Call for assistance immediately.

## Mental Health First Aid

Mental Health First Aider will provide you with a safe space to start a confidential conversation about your mental health and signpost you to the most appropriate support. Details of the qualified departmental Mental Health First Aiders are displayed on notices at the ends of each Aeronautics corridor.

<b>Miss Susan Avery</b>	<b>Miss Lisa Kelly</b>	<b>Dr Joaquim Peiro</b>
Departmental Grants Administrator	PA to HoD	Reader in Aerodynamics
CAGB Room 318	CAGB Room 318	CAGB Room 214
Extension: 45084	Extension: 45056	Extension: 45051
Email: <a href="mailto:s.avery@imperial.ac.uk">s.avery@imperial.ac.uk</a>	Email: <a href="mailto:l.kelly@imperial.ac.uk">l.kelly@imperial.ac.uk</a>	Email: <a href="mailto:j.peiro@imperial.ac.uk">j.peiro@imperial.ac.uk</a>

## Laboratory Working

### Use of Laboratories and Risk Assessment Foundation Training (RAFT)

Everyone wishing to carry out experiments in the laboratories of Aeronautics will be required to take the Risk Assessment Foundation Training (RAFT) and subsequent test.

*NOTE: This does not apply to students doing Laboratory tutorials or attending Laboratory demonstrations*

The course can be found at this link;

<https://www.imperial.ac.uk/staff-development/safety-training/safety-courses-/risk-assessment-foundation-training-raft/>

The RAFT course material should take you no more than a few hours (maximum) to complete and you will have two attempts to pass the subsequent test. The pass mark is 80%. When you have passed, you will have authorisation to use our laboratories. Please come and see the safety officer or your supervisor if you have any questions or need any further help.

#### *What is RAFT about?*

RAFT is a realistic and practical way to learn about the College's risk assessment process via video scenarios based on one's own work environment. After an introduction on why risk assessments are required, the learner is taken through the process of risk assessment before engaging with a series of video scenarios representative of their own work environments. They have to use one of the College forms to conduct risk assessments and a risk matrix to help identify significant risk. There are also sections on risk increasing factors such as lone working and working outside of one's own department or offsite.

It will help you to comply with College policy and legislation; you will be able to identify information relating to hazards, their controls and emergency procedures, which must be exchanged between employer, staff, visitors and contractors - part of the legal requirement of the Health and Safety at Work Act, 1974. As a result, your work place and that of your colleagues will benefit from being safer and healthier – and there may be an associated cost benefit as sometimes the controls in use are unnecessary or ineffective.

Risk assessment is a transferable skill and therefore likely to be useful to all potential managers.

## Risk Assessments

### **Required by:**

1. The management of health and safety at work regulations 1992
2. Control Of Substances Hazardous to Health regulations 2002 (COSHH)
3. Health and safety (DISPLAY SCREEN EQUIPMENT) regulations 2002
4. Manual handling operations regulations 1992

### **What is Risk Assessment?**

The process whereby the hazards associated with an activity are identified and the likelihood that these will cause harm is estimated

$RISK = HAZARD \times (LIKELIHOOD \text{ OF OCCURRENCE})$

### **Why is Risk Assessment important?**

- Identify the relative importance or risks
- Obtain importance about the extent and nature of risks
- Help decide on control methods

### ***Also***

- Risk assessment helps decide where to target prevention and control measures

All Risk Assessments are carried out online. Follow this link;

<https://imperiallondon.sharepoint.com/sites/foe/aero/safety/SitePages/General%20Risk%20Assessments.aspx>

## **General Laboratory Safety Procedures in Aeronautics**

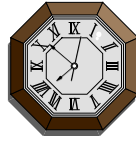
### **Requirements & Regulations**

- RAFT is required for all lab users
- Lab Induction is required (see the laboratory supervisor for more information)
- COSHH assessments must be carried out on any chemicals used.
- All lasers must be registered (see our safety web pages or speak to Dr Nigel MacCarthy; Laser Safety Officer)
- All work involving ionising radiation must be registered (see Mr Gary Senior)
- All work involving biological materials must be registered (see Professor Dennis Doorly)
- Some experiments need to be approved before work begins. (see Aero safety site for more details)

### **Good Laboratory Practise**

- Always leave the door unlocked
- No-one may carry out hazardous work without another person being within call
- Good housekeeping is essential for a safe environment
- No chemical may be put into the drains or placed in the rubbish bins

## Late Working



The normal working hours in Aeronautics laboratories are from 08.00 to 18.00 Monday to Friday.

**Anyone needing to work in a laboratory or wind tunnel** outside of these hours must meet the following criteria and read the lone working web page on the Aeronautics H&S site:

1. A lone working 'buddy' form must be completed BEFORE starting (available from the Aero web site)
2. A valid registration of experiment form and Risk Assessment must be available.
3. Students must carry their college ID Card.
4. Ensure that you know the location of your nearest Emergency Exit and are out of the department by 23.59
5. Report any accident or emergency to Security Ext. 4444 or 020 7589 1000 (mobile)

## Quick Student Guide to Conducting Experiments

### **1. Read the "Guide to Experimental Work in Aeronautics"**

This document will give you valuable general information about our experimental services as well as safety information. Talk to your supervisor as early as possible about safety and your experiment.

### **2. Study the RAFT course material and take the online test**

All this should be carried out via the college link to the material and then the test.

### **3. Pass the test**

Your results will go to Dr MacCarthy. You do not have to complete this test again, even if you work in a different department, but you will need a new Risk Assessment for EACH experiment you conduct.

### **5. Complete an online RISK ASSESSMENT (RA)**

When should I do this? When you have setup your experiment, but before you test. (you should consider safety during the design phase and write up your RA accordingly)

Remember if you change your experiment, or begin a new experiment, then a new Risk Assessment will be required.

**9. Check that your Risk Assessment has passed through approvals before commencing experiments.**

## Disability

If you have a disability of any kind and would like to discuss further how the department can assist you, please see [Dr Nigel MacCarthy](#) extn 45043.

## Hazard Warning Signs

Below are some typical signs you are likely to see around the department, on lab doors and indeed the college as a whole;



1. The **black** triangle, with a **black-on-yellow** pictogram, indicates a **warning**
2. The **red** circle with crossbar and a **black-on-white** pictogram, denotes a **prohibition**
3. The **blue** circle, with the pictogram imposed in **white** denotes **obligation**, or **instruction**
4. The **green** square, with the pictogram in **white**, is for **information**



## Smoking

As with the rest of the college, smoking is STRICTLY PROHIBITED in the Aeronautics Department



## Other Information & Useful Contacts

### **Building Manager**

The Building Manager for City and Guilds is Guy Fairhurst, [g.fairhurst@imperial.ac.uk](mailto:g.fairhurst@imperial.ac.uk), (Phone 020 7594 9639) 260, 2nd Floor, City and Guilds Building, South Kensington Campus.

The Assistant Building Manager is Zia Rahman, [z.rahman@imperial.ac.uk](mailto:z.rahman@imperial.ac.uk) (Phone 07872 850 186) 260, 2nd Floor, City and Guilds Building, South Kensington Campus.

### **Building Temperature Control (Heating/Cooling)**

Many of the rooms and laboratories in CAGB have mechanical heating and cooling. The temperature of the spaces are controlled centrally by Imperial College Estates. If you have problems with heating or cooling, please report these to FM Estates on extn 48000. If problems continue, please contact the Building Manager.

**Aeronautics Safety Officer / Laser Safety Officer**

Dr Nigel MacCarthy

Phone Number 0207 594 5043

email [n.maccarthy@imperial.ac.uk](mailto:n.maccarthy@imperial.ac.uk)

Room CAGB 222

**Mechanical Engineering Safety Officer**

Julia Easton

Phone Number 0207 594 7700

email [j.easton@imperial.ac.uk](mailto:j.easton@imperial.ac.uk)

455, 4th Floor, City and Guilds Building, South Kensington Campus.

**Faculty Safety Officer**

Mr Steven Greenwood

Phone number 0207 594 0821

Email [stephen.greenwood@imperial.ac.uk](mailto:stephen.greenwood@imperial.ac.uk)

2nd Floor, Faculty Building, South Kensington Campus tel; 020 7594 0821