

# Occupational Hygiene Studies at ECU

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# Where is ECU

- ECU is in Perth Western Australia



# OHS Programs at ECU

ECU has a number of programs in occupational health and safety including:

- **Master of Occupational Hygiene & Toxicology**
- Master of Occupational Health & Safety
- Graduate Diploma of Occupational Health & Safety
- Graduate Certificate of Occupational Health & Safety
- Bachelor of Health Science (Occupational Safety & Health major)

# Strength of OHS Studies at ECU

In addition to the strong OHS focus in subject matter. ECU programs are strong because of the:

- Knowledge and commitment of the OHS academic team in providing quality OHS programs with a strong practical focus.
- Student numbers: 386 coursework postgraduate students:
  - Master of Occupational Hygiene & Toxicology – 66 students
  - Master of Occupational Health & Safety – 81 students
  - Graduate Diploma of Occupational Health & Safety – 94 students
  - Graduate Certificate of Occupational Health & Safety – 145 students

# ECU Courses are accredited by the appropriate professional body

Master of Occupational Hygiene and Toxicology

- AIOH



- BOHS

Master of Occupational Health & Safety and Graduate Diploma of Occupational Health & Safety

- AOHSEAB



# Master of Occupational Hygiene & Toxicology

The Master of Occupational Hygiene & Toxicology (MOHT) consists of 12 units:

- Normal length of study is 2 years full time or 3 to 4 years part time.
- Research Project is year long and must be occupational hygiene focused based on a workplace issue.
- All except 3 practical units are totally on-line.

# MOHT Program

Semester 1		Semester 2		Semester 3		Semester 4	
Unit Number	Unit Name	Unit Number	Unit Name	Unit Number	Unit Name	Unit Number	Unit Name
OHS6144	Occupational Hygiene 1: Chemical Aspects	OHS6159	Occupational Hygiene 2: Physical Aspects	OHS6162	Occupational Hygiene 3: Control	OHS6178	Occupational Toxicology*
OHS6136	Occupational Epidemiology	OHS6176	Occupational Hygiene Sampling and Study Design	OHS6131	OHS Risk Management	OHS6132	Occupational Health and Safety Management Systems
OHS5118	Occupational Hygiene Science	RES5115	Research Preparation: Principles and Approaches	HST6106	Health Science Research Project 1#	HST6107	Health Science Research Project 2@

Pre-requisites: \*OHS5118: # RES5115: @ HST6106

# MOHT Practical Units:

The MOHT has 3 practical units requiring the compulsory attendance at a 3 day on campus workshop for each unit. They are:

- OHS6144 - Occupational Hygiene 1: Chemical Aspects
- OHS6159 - Occupational Hygiene 2: Physical Aspects
- OHS6162 - Occupational Hygiene 3: Control



# OHS6144 - Occupational Hygiene 1: Chemical Aspects

- history of occupational hygiene in Australia;
- identify and characterise chemical, physical, ergonomic and biological work related hazards;
- prioritise work related hazards;
- critically evaluate work related exposure standards;
- select and describe methods for chemical monitoring appropriate analytical techniques used;
- use sampling equipment to assess chemical exposures according to the appropriate standard method/s; and
- analyse the results and prepare a report to management on what they mean.



# OHS6159 - Occupational Hygiene 2: Physical Aspects



- plan exposure assessments utilising a range of sampling equipment and monitoring techniques for physical and biological hazards;
- use a range of assessment techniques in the quantification of a range of physical hazards and biological hazards;
- interpret workplace monitoring results with reference to legislation etc;
- analyse and record risks based on the outcomes of the workplace monitoring; &
- prepare written and verbal reports at a level appropriate to various target audiences.

# OHS6162 - Occupational Hygiene 3: Control

- prioritise the hierarchy of controls to identify a range of strategies to reduce exposures;
- select and recommend controls that are achievable for a given situation;
- evaluate the importance of design considerations as a means of exposure reduction;
- utilise applicable legislation, regulations and codes of practice to control hazards;
- make specific recommendations commonly used for the control of physical, chemical and biological hazards; and
- apply risk management principles to the control of hazards.

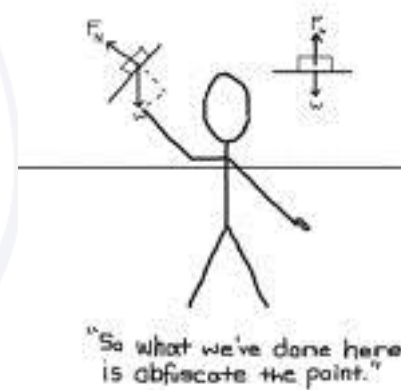
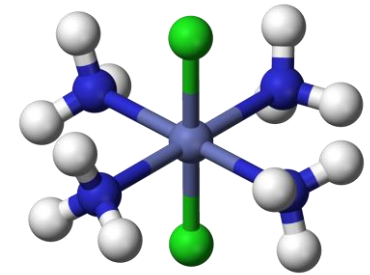
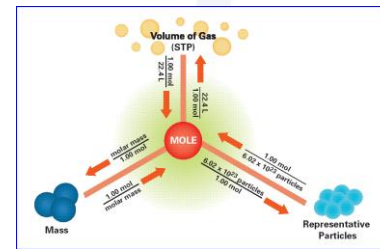


# What does On-line learning at ECU involve:

- Regular access to on-line learning environment (Blackboard) which includes:
  - Study material
  - Discussion board
  - Assignment submission
  - On-line real time tutorial using Adobe Connect
  - Assessment submission and return
  - Connect with lectures via email
- Access to library for eBooks and journals

# OHS5118 - Occupational Hygiene Science

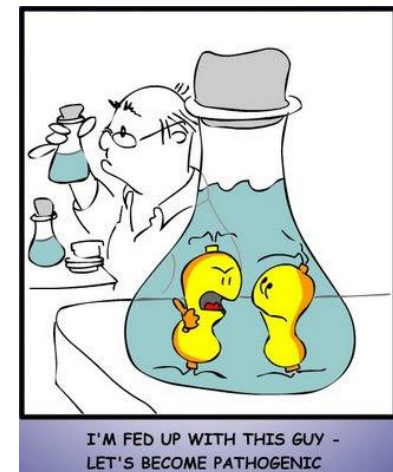
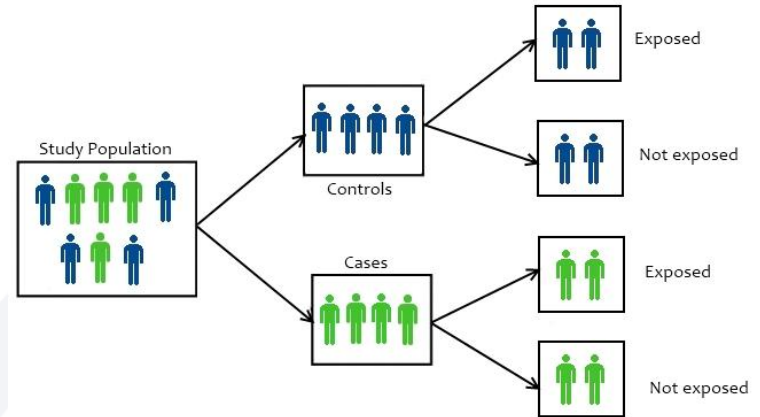
- principles of physics related to the assessment of noise, vibration and radiation in an occupational context;
- principles of chemistry underpinning the quantification of airborne concentrations of contaminants;
- human physiology and how it is influenced by interaction with workplace environments;
- mathematics necessary for the calculation and statistical analysis of occupational hygiene exposures and OHS statistics





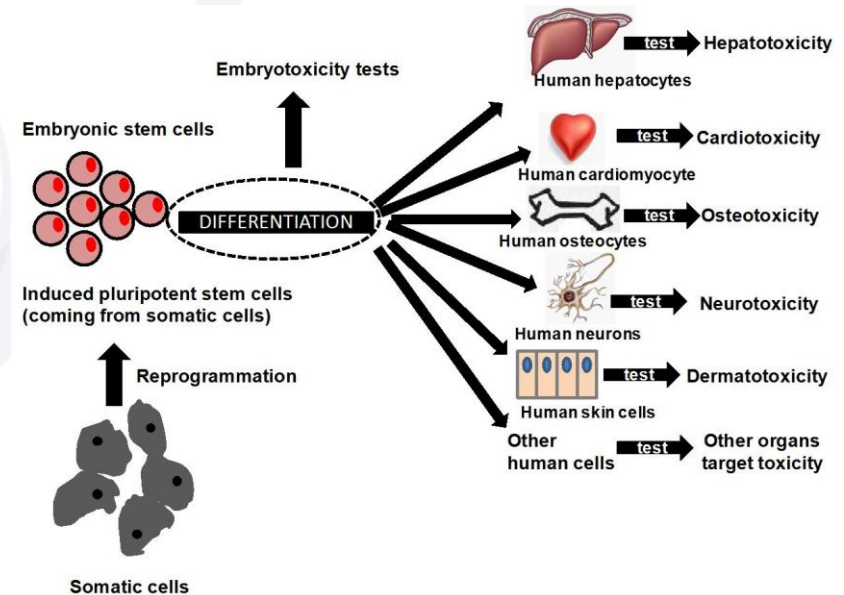
# OHS6136 - Occupational Epidemiology

- summarise the scope of occupational epidemiology and characterise types of epidemiological studies undertaken on cohorts of workers;
- review and synthesis the outcomes from published research reports relating to occupational health;
- design simple epidemiological studies that can be used to investigate OHS issues;
- evaluate epidemiological data and predict potential OHS risks;
- apply principles of ethical conduct when collecting data from human subjects in workplaces.



# OHS6178 - Occupational Toxicology

- demonstrate the general principles of toxicology and testing procedures for conventional and non-target organ toxicities;
- discriminate between various toxicological impacts on different organs and systems;
- conduct health risk assessments.



# OHS6176 - Occupational Hygiene Sampling and Study Design

- Principles of occupational hygiene exposure assessment program;
- Argue the importance of similar exposure groups (SEG's);
- Define different occupational exposure assessment strategies;
- Design exposure monitoring strategies;
- Argue the advantages and disadvantages of statistical exposure data modelling packages;
- Design strategies to quantify workers exposures to multiple hazards;
- Propose “triggers” for the reassessment of SEG's.





# OHS6131 - OHS Risk Management & OHS6132 – OHS Management Systems

## **OHS6132 - OHS Risk Management**

- summarise the processes for managing OHS risks in the workplace;
- develop and design an incident reporting system for a workplace;
- characterize the key processes involved in managing OHS incidents and emergencies for a specific industry/workplace;
- critically evaluate and present OHS data;
- develop an OHS risk management plan for a specific workplace/ activity.

## **OHS6132 - OHS Management Systems**

- define the requirements for an OHS management system, including safety case regime;
- develop an informed OHS management system that reflects the OHS needs of an organization;
- propose OHS policies and procedures suitable for an organisation;
- assess the effectiveness of an OHS management system;
- develop and implement a behaviour based safety program.

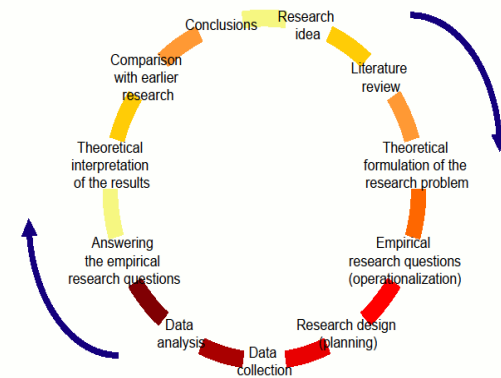
# RES5115 - Research Preparation: Principles and Approaches

- Apply & interpret data analysis processes.
- Critically analyse and construct arguments & propositions.
- Critically analyse research studies in the pursuit of academic rigour.
- Demonstrate an understanding of the nature of knowledge & how cultural, social & institutional perspectives influence the construction of knowledge.
- Demonstrate an understanding of the research process, the key concept of sound research design & the construction of research questions, aims & hypotheses.
- Develop an understanding of how perspectives of knowledge influence research methodology.
- Identify a range of qualitative & quantitative approaches that can be taken to address research questions & the relative strengths & weaknesses of the various methods.

# HST6106 & HST6107 - Health Science Research Project 1 & 2

- Submit a research proposal for the investigation of an occupational hygiene issue including the project timelines, cost analysis, the ethical issues relating the topic, the methodology, and then obtain ethics clearance.
- Review and critique current literature relating to the research project;
- Collect and analyse data relevant to the project including using the appropriate statistical tools.
- Evaluate the findings in relation to their research question.
- Present a conclusion and recommendations on the findings from the project, including any limitations.
- Produce a written research report and paper which argues the findings of the project.

The research process



# What do MOHT students think?

- One of our students tell us what they like about the program - Con Spicer



# Any Questions

