



# Developing PhD supervisory experience through structured PhD programmes in UCD

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# Why do a PhD in Biomedical Science?

- Biomedical Scientists are innovators
- PhD degree is the gateway to a career in biomedical research
- PhD is pathway to career in academia
- 80% of PhD graduates pursue careers outside of academia such as business, industry and the public and voluntary sectors



# What is doctoral research?



The **distinguishing feature** of doctoral research is that it is



**original research, the outcome of which is an original and substantial addition to knowledge and understanding.**





# UCD PhD

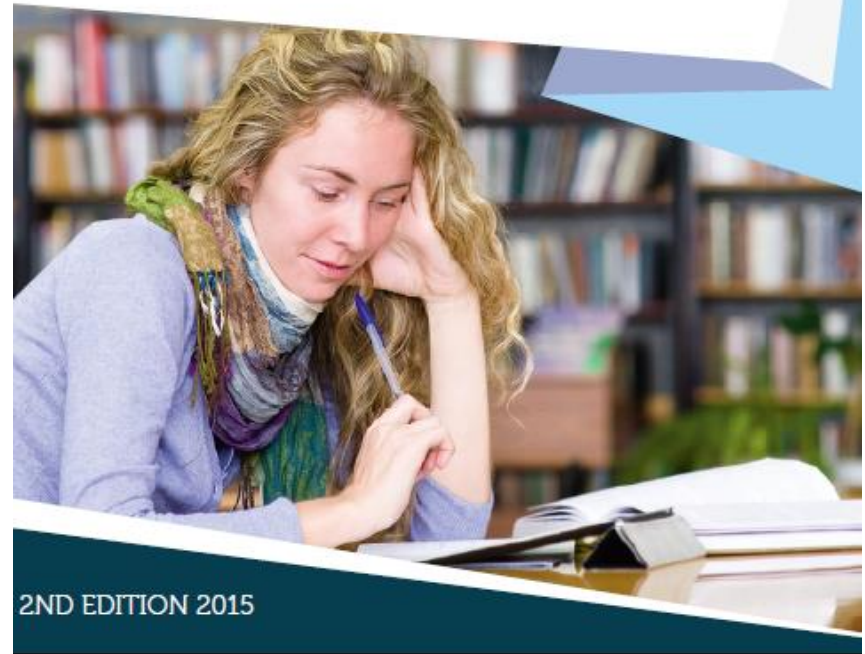
- UCD PhD is an award characterised by a significant original contribution to scholarship, based largely on a major research project
- Doctoral students are expected to acquire a range of transferable skills, relevant to the successful completion of their research project and to their broader career development.

# IUA Skills Statement

- ethics and social responsibility,
- communication skills,
- personal effectiveness and development,
- team working and leadership,
- career management and
- entrepreneurship and innovation.

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UNIVERSITIES  
ASSOCIATION

## IRISH UNIVERSITIES' PHD GRADUATE SKILLS STATEMENT



What is a student supposed to be able to do when they finish their PhD?





# PhD know-how and skill-range

- Capable of being an independent investigator
  - Able to recognise and evaluate problems
  - Original autonomous thinking
  - Capacity for critical analysis, reflection and evaluation
  - Understanding and application of basic principles of project and time management, presentation skills and working in a collaborative environment
- 
- UCD PhD level descriptors



# Why do we supervise research students?

- Research students are the next generation of researchers.
- They will become independent investigators
- As academics working in universities our role as public servants is to nurture and support research students so that they can reach their full potential and contribute to society





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Mike Tenko  
8-23

"What's the opposite of 'Eureka'?"



# The 10 Most Important Qualities of the Ideal Graduate Research Supervisor

- Support
- Availability
- Interest and Enthusiasm
- Knowledge and Expertise in the Field Surrounding the PhD
- Interest in the Student's Career
- Good Communication
- Constructive Feedback
- Provides Direction and Structure
- Approachability and Rapport
- Experience and Interest in Supervision

<https://www.otago.ac.nz/graduate-research/study/phddoctoral/programme/otago403801.html>

# Skill Set Required by PhD supervisor



# Why do we refer to ourselves as supervisors?

- Are we supervisors?



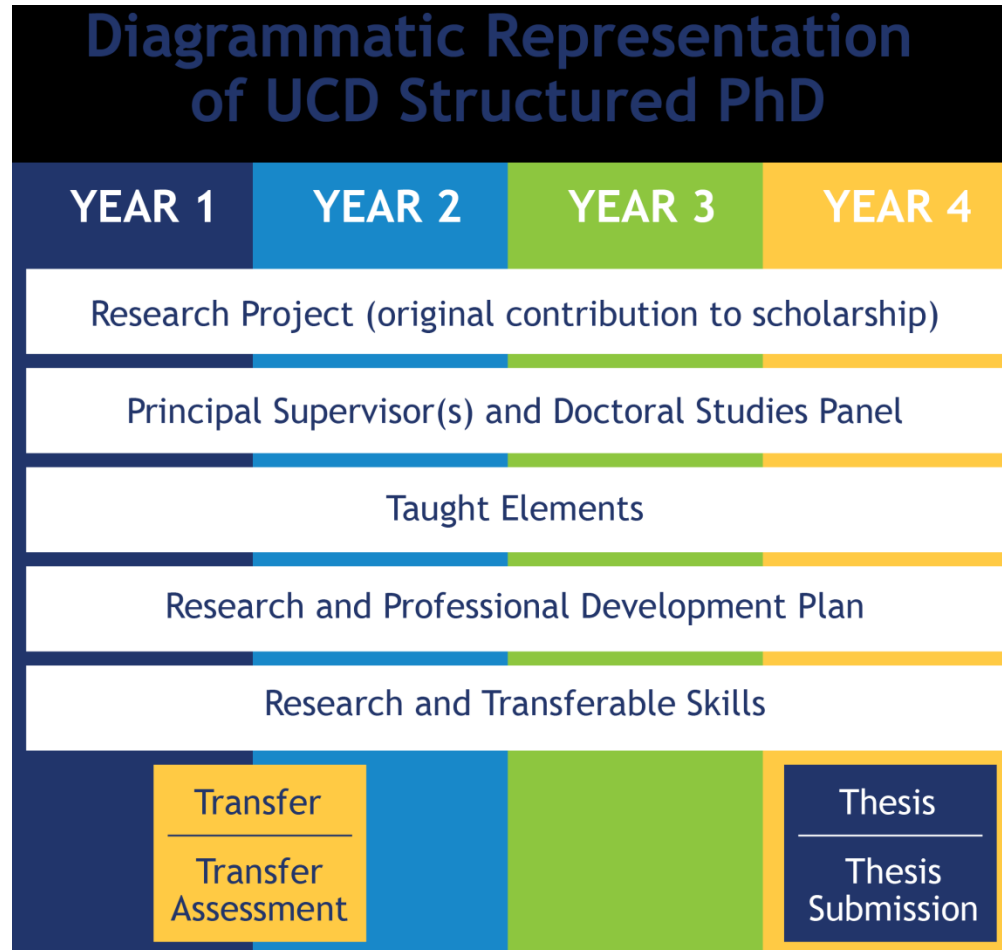




# UCD Thematic PhD programmes in Biomedicine

- Translational Medicine (School of Medicine)
  - Computational Infection Biology
  - Infection Biology
  - Bioinformatics
- 
- PhD students on these programmes benefit from advanced education, training and research focused on an identified theme. Students gain a deeper sense of community through shared seminars, taught modules and supervision.

# UCD Structured PhD





# Modules available to students

- Innovation and entrepreneurship
- Statistics and data handling
- Teaching in Higher Education
- Research Ethics
- Bioinformatics
- Flow Cytometry
- Imaging
- Omics





# Doctoral Studies Panel

- The purpose of the Doctoral Studies Panel is to support and enhance the supervisor-student relationship,
- to monitor the progress of the student through their doctoral studies, and to provide
- advice and support to student and supervisor(s).



# Membership of DSP and Meetings

- DSP membership comprises of the research student, the Principal Supervisor and any second or additional supervisors, and two advisors.
- Of the two nominated advisors
  - At least one will have academic expertise relevant to the student's research work
  - At least one will have experience in supervising doctoral students to completion.
- Students are required to meet with their DSP 3 times in stage 1.
- Record DSP meetings using RPDP forms





# Stage 1

- Stage 1 is an initial period of advanced education, training and research.
- There are no restrictions on the relative proportion of taught modules, generic skills training, research training and original doctoral research within Stage 1 doctoral studies
- You must complete 30 credits over the course of your PhD, level 4 or above from taught modules to graduate



# What is purpose of stage 1 transfer assessment ?

To assess **the progress** of the student and their **competence** and **capacity** to **complete** a doctorate at the end of Stage 1.





# Stage 1 Assessment Panel

Panel of three academic staff with sufficient expertise to assess you.

The supervisor will not be there.

Members of the DSP will not be there.



# Criteria for assessment

The criteria upon which candidates will be assessed are as follows

1. Are the aims of the project clear?
2. Has the student demonstrated an adequate understanding of knowledge in the field?
3. Is there evidence of sufficient progress?
4. Is there a clear research plan for the doctoral phase, with realistic timelines?





# What the student has to do



1. Written Report (deadline for submission)
2. Supervisor report (deadline for submission)
3. Present for interview
4. Presentation
5. Answer questions





# Report

## What goes in it?

- Background
- Hypothesis / Aims
- Materials and Methods
- Results (progress to date)
- Plan for the doctoral phase
- List modules completed
  
- Signed DSP reports







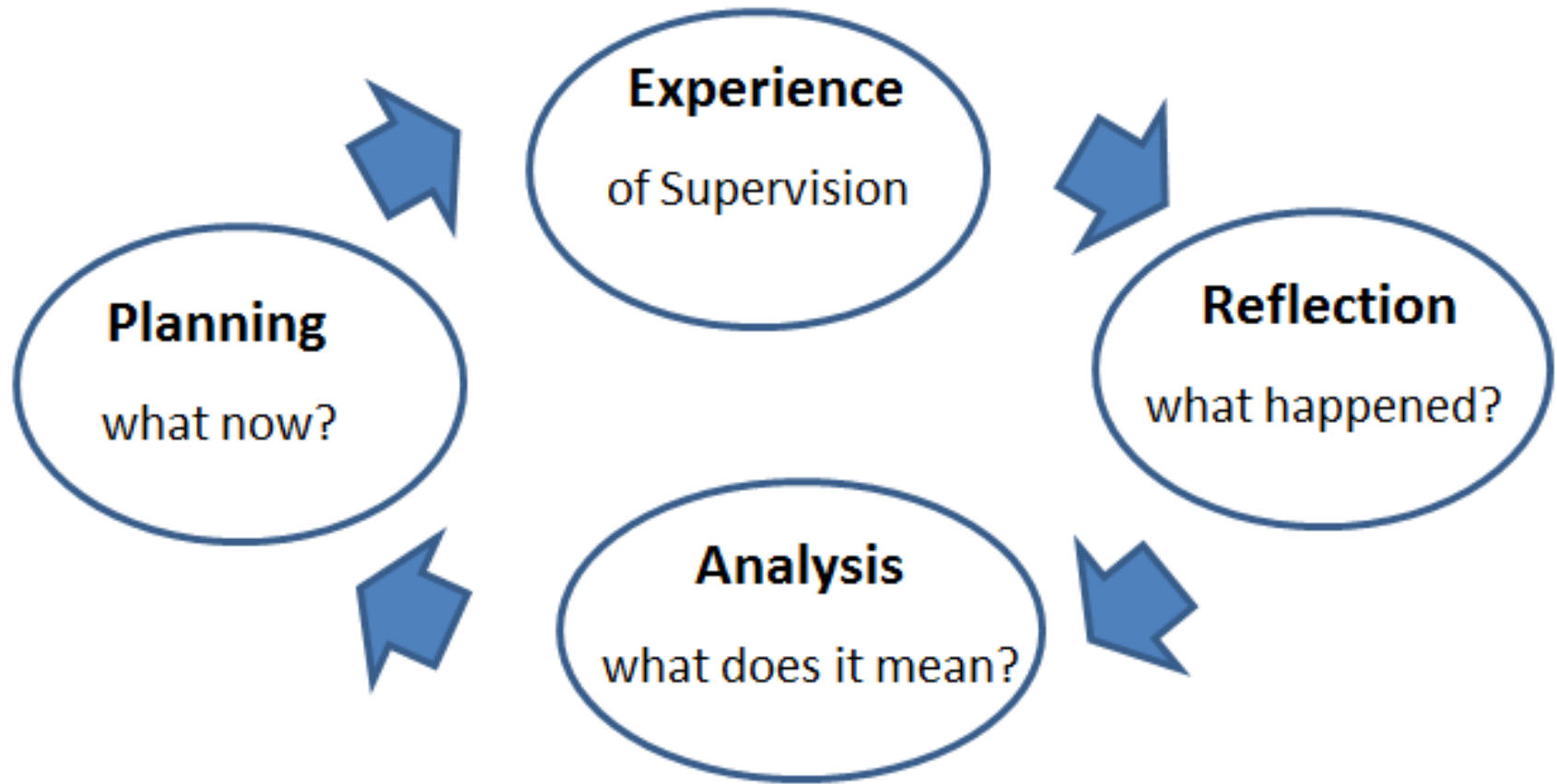
# Stage 2 of doctoral programme?

Stage 2 is largely dedicated to original doctoral research (**Level 5**) but may also include advanced education and research and generic training.

There is no restriction on the balance between these components except that the total awardable credit for education and training modules cannot exceed 90 credits.

Interaction with the DSP in stage two is mandatory  
Especially recommended when the student is near completion of experimental work

*Kolbs Life Cycle of Experiential Learning*



Much of how we supervise is based on how we were supervised



# Conclusions

- A major benefit is a critical mass of supervisors that are supported.
- Supervisors are prepared to evolve and are flexible in their approach to supervision.
- Improved environment for the students;
  - Improves learning experience
  - Transferable skills make them attractive for future employers when they have finished their studies.
- Need for rigorous assessment of supervisor development and survey of student satisfaction.

