DClinSci Year 3, 4 & 5

Aims:

to get to a successful Professional Doctorate!

Focus:

How to help you achieve this

Shazia Dar

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Thanks to:

Karen Kirkby

Julia Handley

Anne White

Rebecca Dearman

Kai Uus

Garry McDowell

|	**Programme Plan for Life Sciences -Semester 1**	**Semester 2**
Year 1	**A1** **Semester: 1** **30 credits**	**Section B: Specialist Scientific Clinical Programme—FRCPath Part 1** (75 credits)
Year 2	**Section B: Specialist Scientific Clinical Programme—FRCPath Part 1** (75 credits)	**A2** **Semester: 2** **20 credits**
Year 3	**Submit Research Project Form (end of Sep)** / **A3 Semester: 1 30 credits** / **C1-Research Project Development Semester: 1**	**Submit Literature Review & Extended Project Proposal** / **A4 Semester: 2 20 credits** / **Give Lay Talk** / **C2 Semester: 2**
Year 4	**C2** / **Give Research Talk**	**A5 Semester: 2 20 credits** / **Workshop on How to a write a Thesis**
Year 5	**C2** / **Notice of Submission**	**Submission**

Comfort zone

Easy, stress free, "doing ok", no dramas, happy,

content

Stretch zone

Pushing performance, high effort, improving, excitement, adrenaline, growth

Panic zone

Anxiety, worry, bad decisions, irritable, concern, poor performance
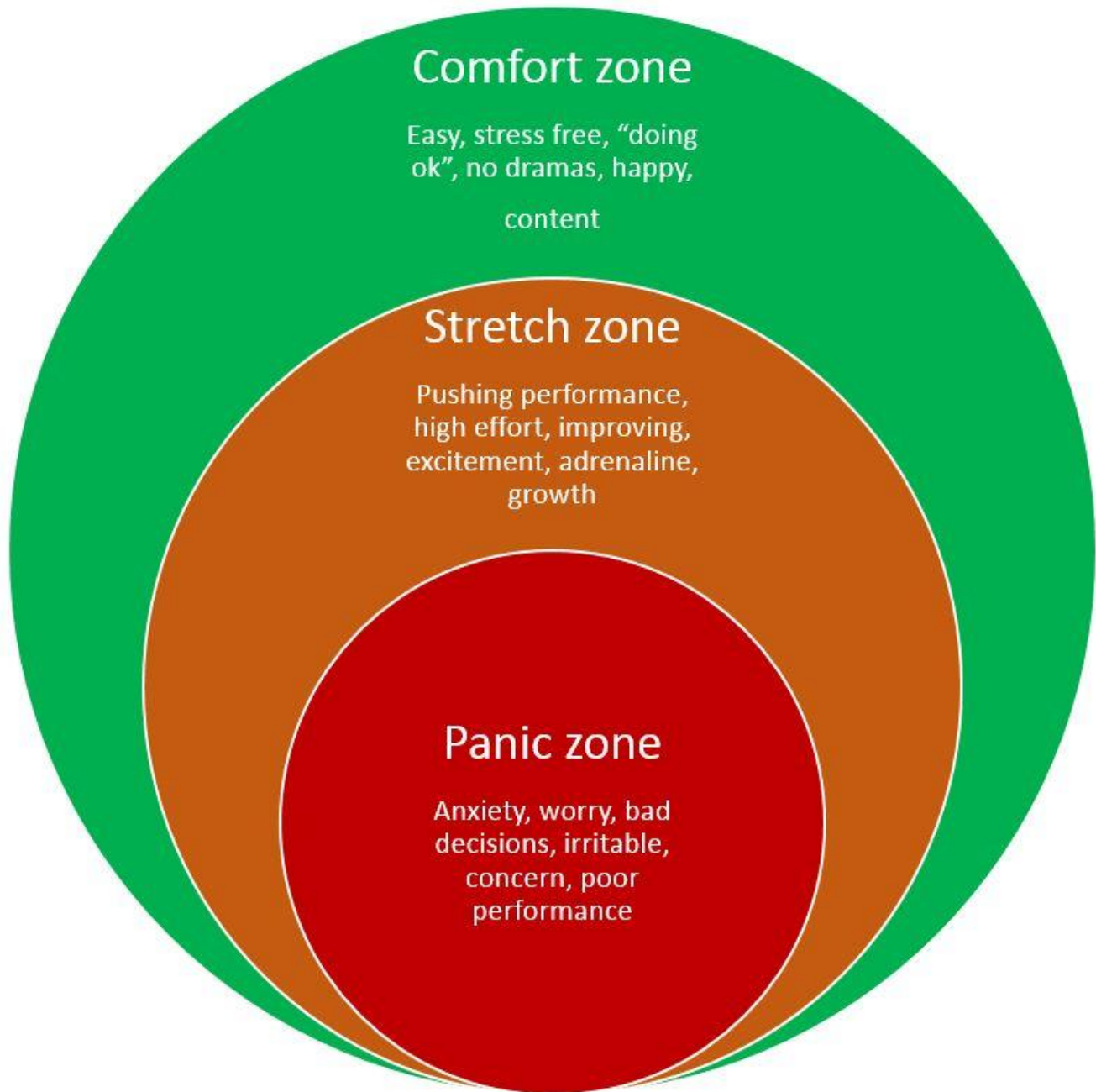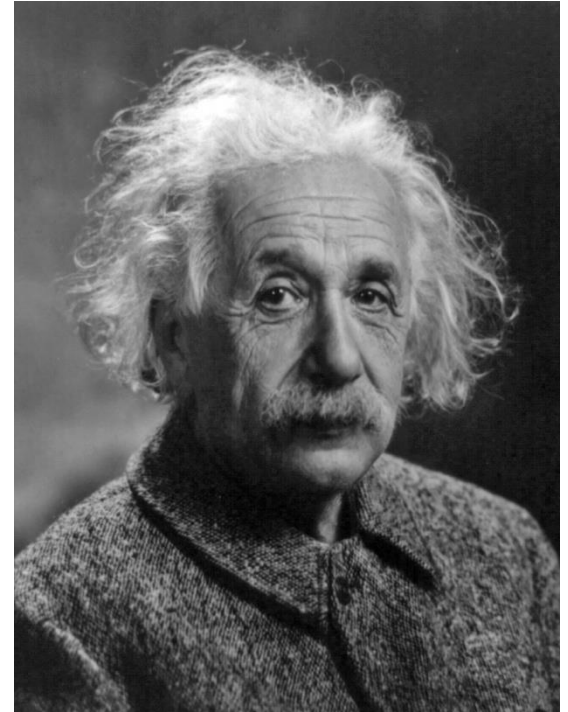
What Is Successful Research?

- Research which can be presented at national and international meetings

- Publishing your data in peer review journals

- Research that has an impact for health care

- Research resulting in a well-written thesis

What is an acceptable Research Project?

If we knew what it was
we were doing,

it wouldn't be called 'research,'
would it?

What is an acceptable Research Project?

- **Good Background** showing the importance and clearly identifying where there are gaps in knowledge

- **Hypothesis** leading to Aims and Objectives

- Critical Evaluation

- One, two or three sets of data that form chapters in a thesis or one or more papers

- **Discussion** of the outcomes and importance and impact

Project management
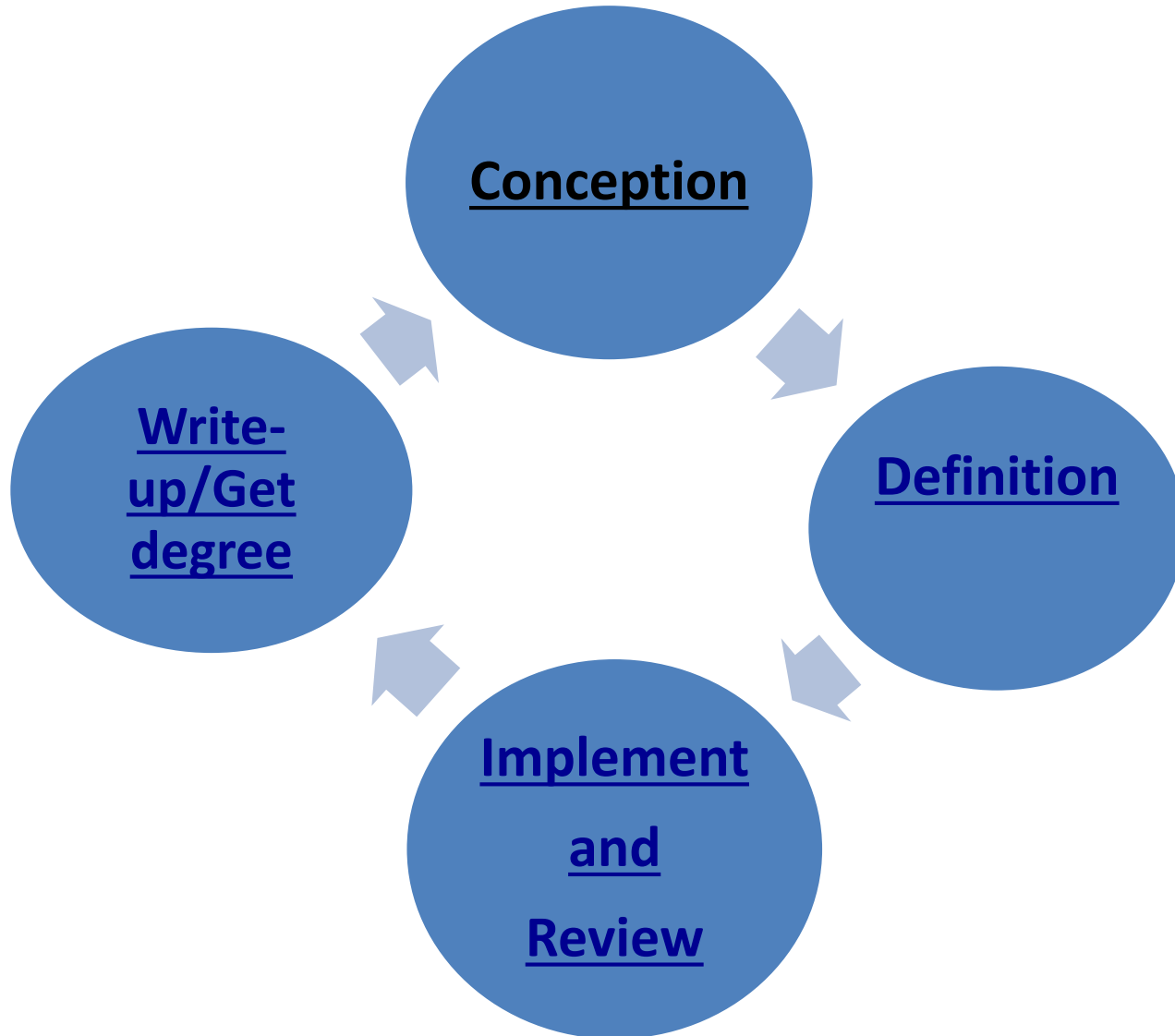
Are the tasks do-able? How do you question their validity?
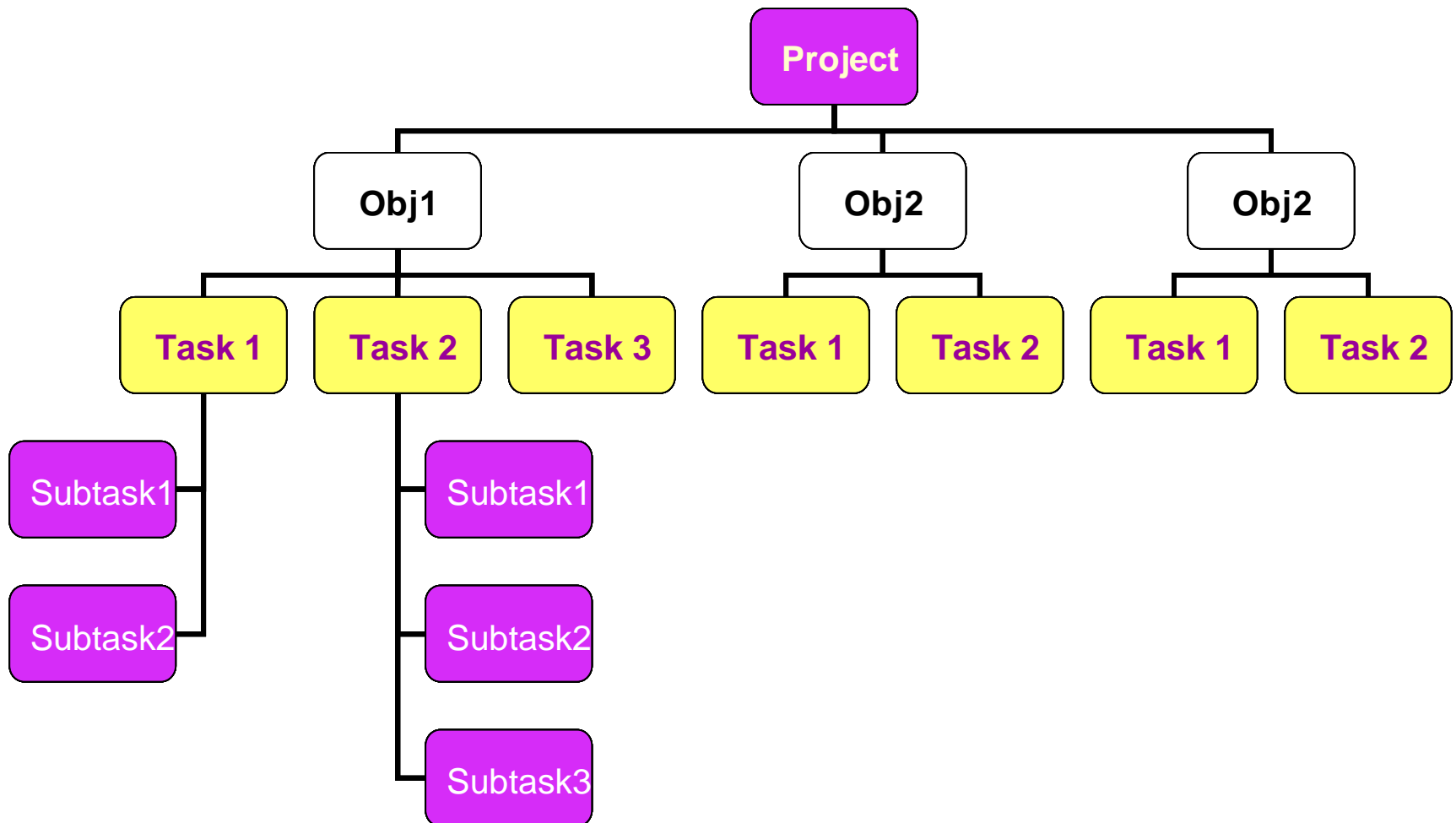
The Paper: If you can't see what it would look like published it may not be worth doing!!!!

Fig.1: Effect of EGF conc

cMyc mRNA

10

1.0

0.1

Time of incubation

Fig.2: Compare E vs F Cells

cMyc mRNA

EGF

Fig.3: cMyc mRNA

■ Isoform 1
■ Isoform 2

E E F F   E E F F

Log Phase   Confluent
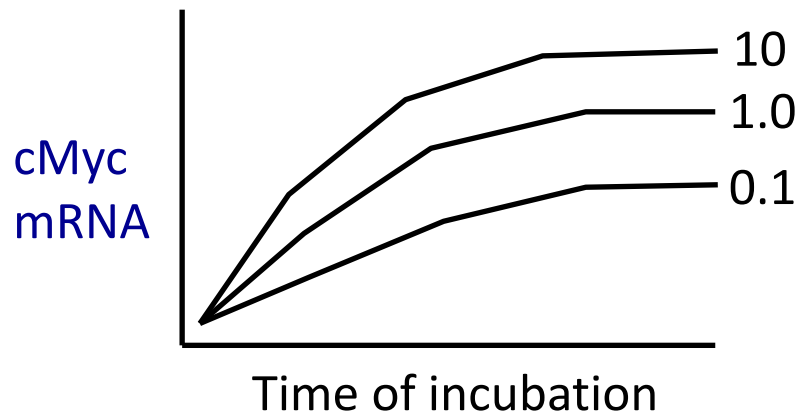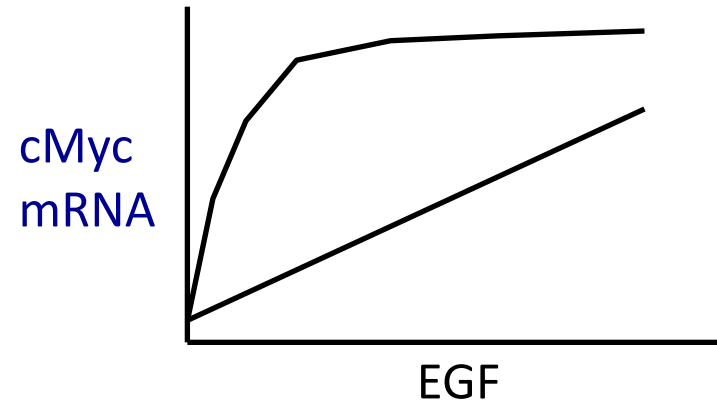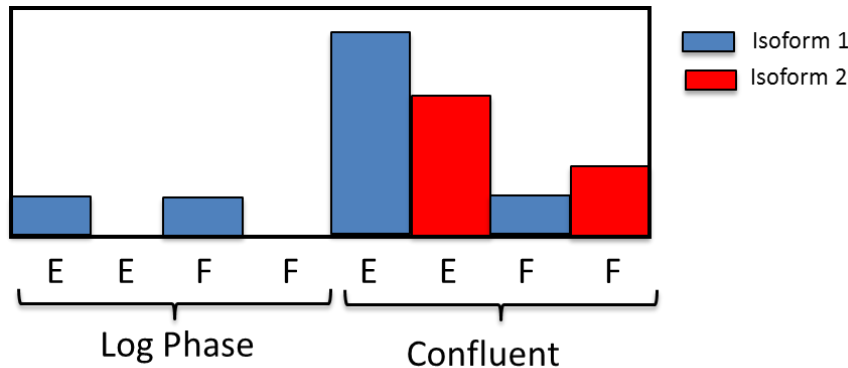
Table 1

serum	% inc
0 %	2
10 %	50
20 %	70

What controls do you need?

# Prioritise both experiments and writing/planning/training

Activity	Month 1	Month 2	Month 3	Month 4	Month 5	Month 6	Month 7	Month 8	Month 9	Month 10	Month 11	Month 12	Month 13
Register	◆												◆
Literature review	■	■	■										
Deadline for literature review			◆										
Prepare and rehearse presentation							■	■					
Presentation to School/Department								◆					
Documented meeting with supervisors		◆	◆	◆		◆		◆	◆	◆	◆	◆	
Plan first research unit			■	■									
Present outline of first research unit					◆								
First research unit					■	■	■	■					
Review and analyse research results								■					
Survey of literature	■	■	■	■	■	■	■	■	■	■	■	■	■
Courses/conferences	■							■					
Learning about equipment & techniques		■			■				■				
Holiday								■					
Second research unit planning								■	■				
Second research unit									■	■	■	■	■
Drafting transfer report									■	■			
Finalise transfer report										■			
Deadline for transfer report											◆		
Transfer viva												◆	
Visit from leading professor						◆							

Project timeline - Gantt chart
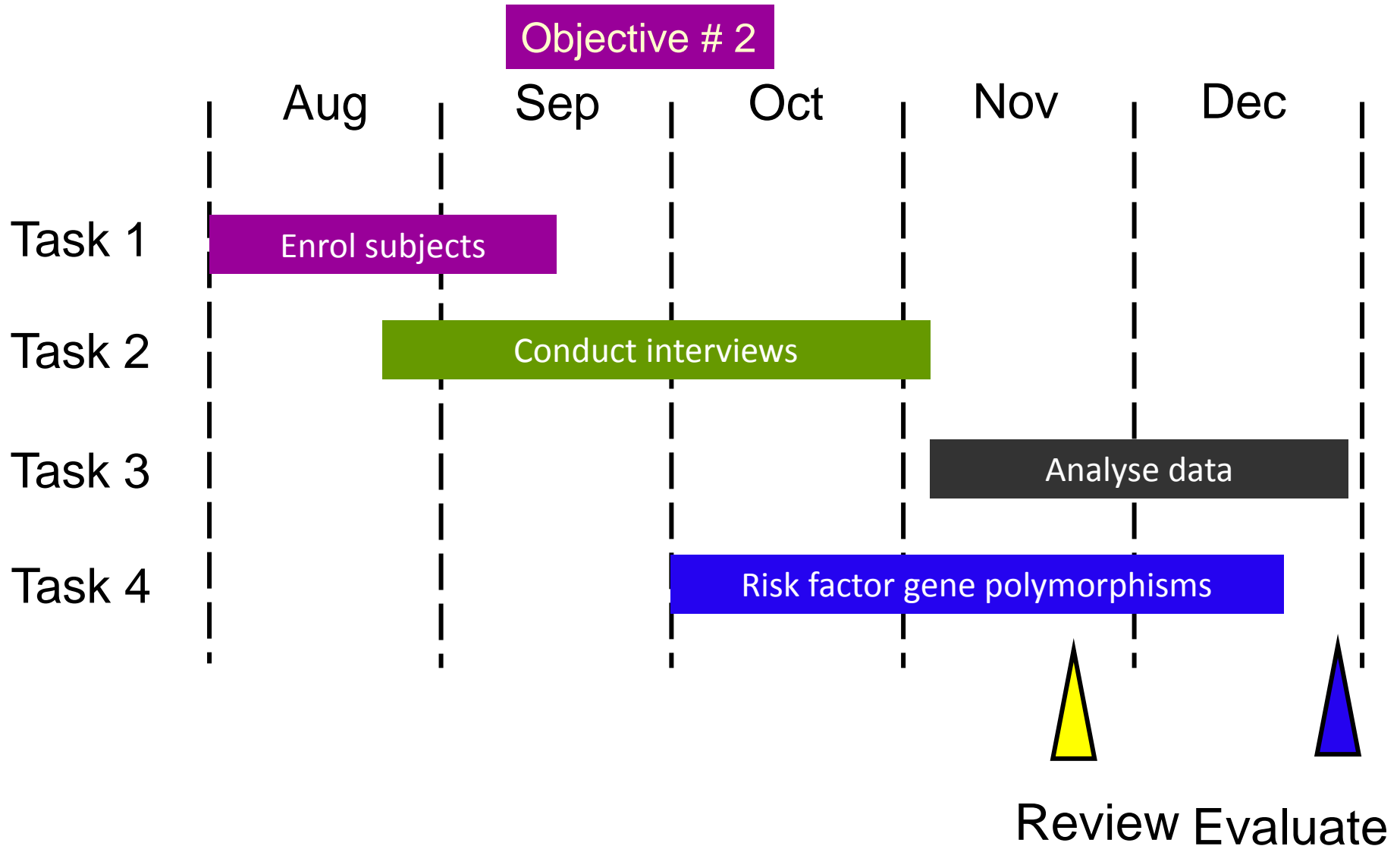
Cancer Research UK – Development Grant

Timelines

Month
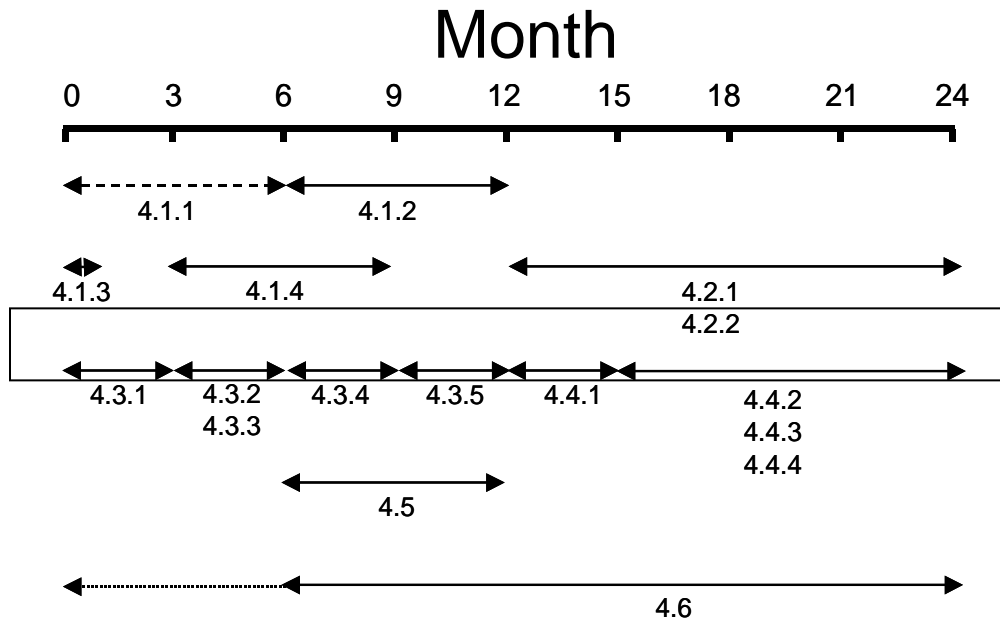
Milestones/Deliverables

4.1.1 Development of cell lines for rh opticin
4.1.2 Production and purification of rh opticin
4.1.3 Sale up of human adeno-opticin
4.1.4 Development of ELISA Assays
4.2.1 Proliferation/apoptosis studies
4.2.2 Migration, invasion and adhesion studies
4.3.1 Comparison of human/bovine adeno-opticin
4.3.2 Optimal single dose of (human) adeno-opticin
4.3.3 Histological and Western blot analyses
4.3.4 Multiple dosing with adeno-opticin
4.3.5 Adeno-opticin with HT1080 and MDA468 tumours
4.4.1 Pharmacokinetics (rh opticin)
4.4.2 Tumour growth delay studies (rh opticin)
4.4.3 Window chamber experiments
4.4.4 *In vivo* metastatic model
4.5. Immunogenicity studies
4.6. Determination of the biologically active sites in opticin

Triangle of Constraints

Quality

Resources

Research aims

Time

Research Planning Meeting

Progress Meeting

Thesis Meeting

Jan 0_

Month 1 2 3 4 5 6 7 8 9 10 11 12 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec

Dec

Literature Report Meeting

Continuation Report Plan Meeting

2nd Year Report & Progress Meeting

Beware scope creep

If you need to change the scope, ensure that:

- Everybody is aware of the impact on the schedule and outcomes of the project

Additional ideas!!!

Original plan
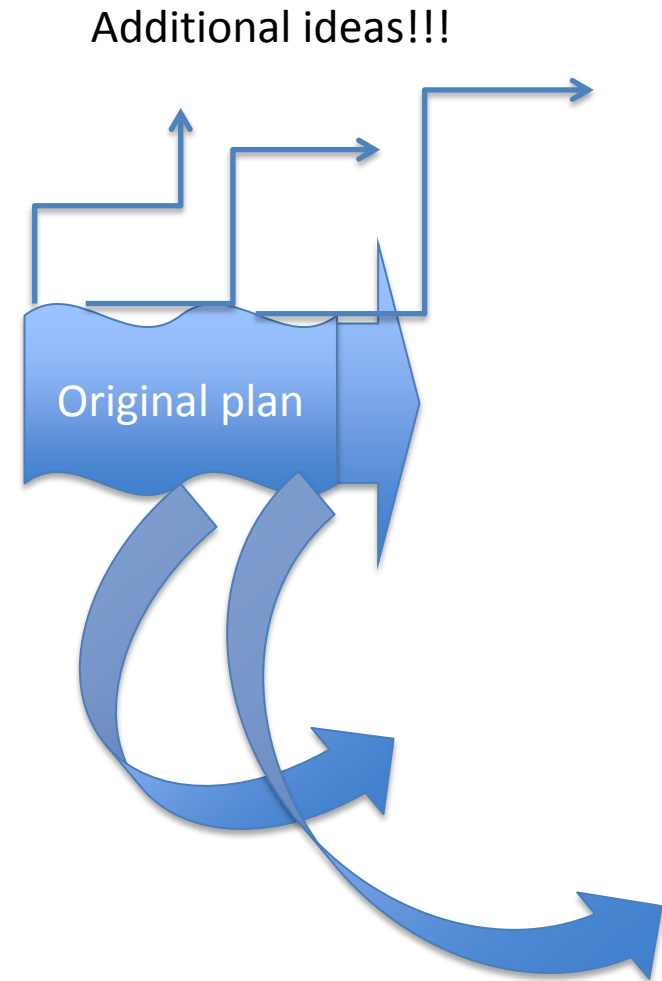
This is project management-
at a distance/in a team?

Opportunity for greater success

BUT

Greater risk of things going wrong!!!

Engage all stakeholders in the research

Who will be affected?
Who will be needed for support?
Who will be interested in the outcomes?

Faculty/
University

Trust

Commissioners

Line
manager

Project
Team

Collaborators
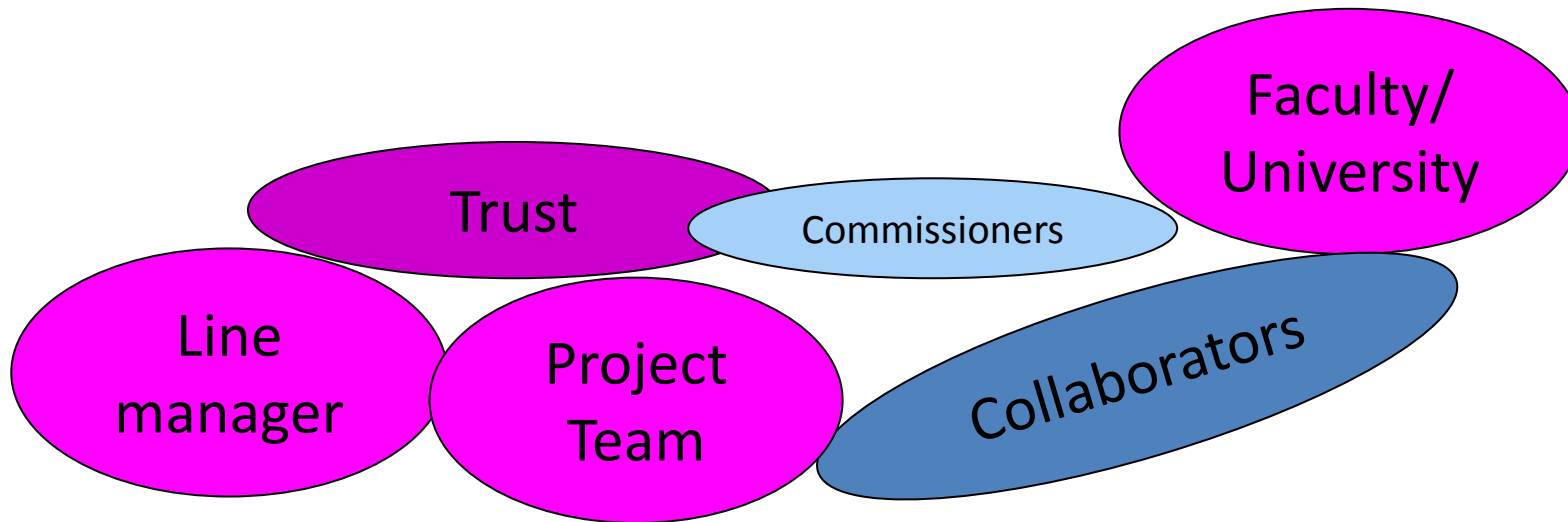
How do you manage the stakeholders expectations?
Think about reporting and communication - help each to appreciate the value of the project throughout

Engage all of the stakeholders

	Involve	Partner
Power	Inform	Consult
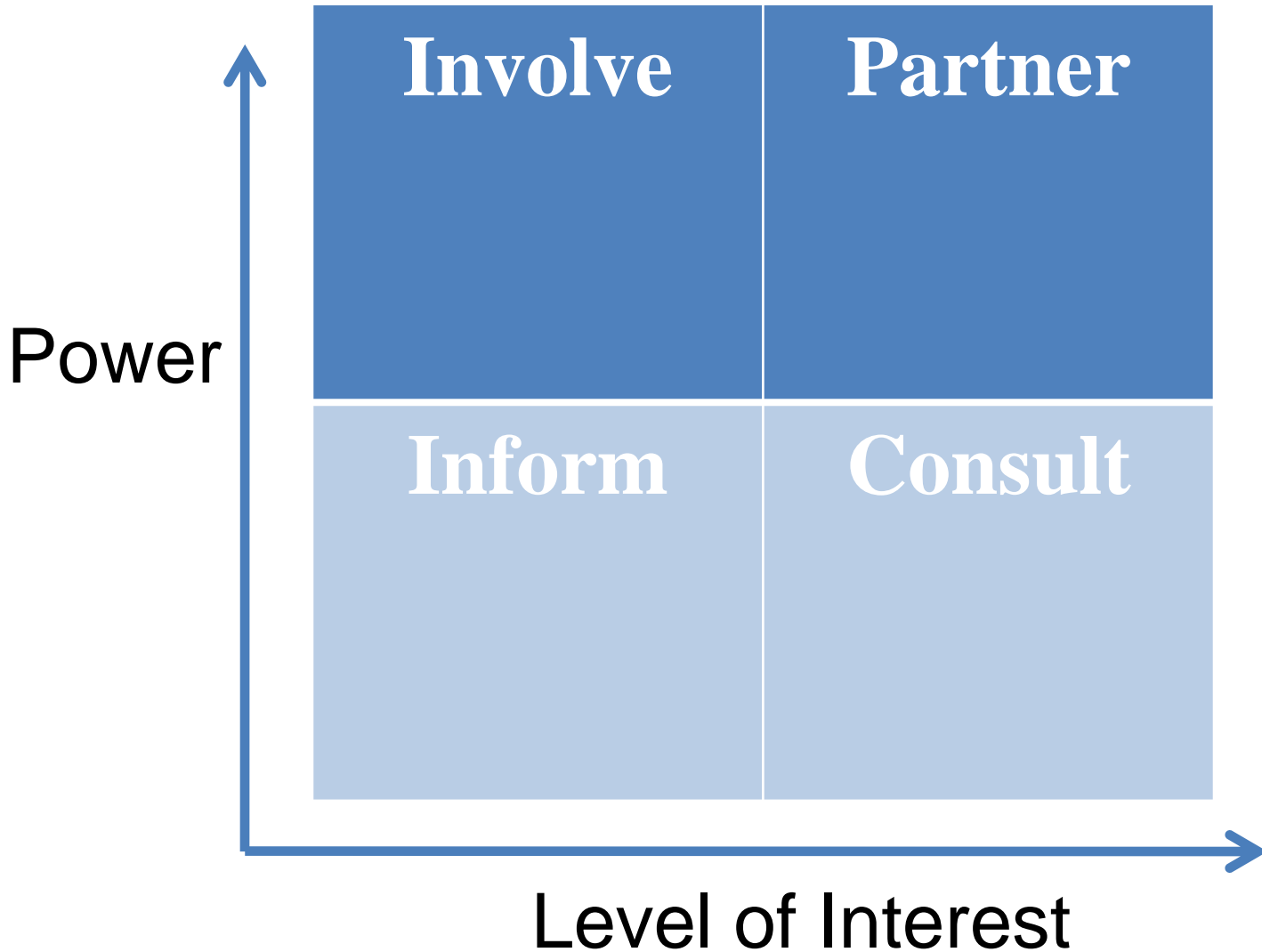
Level of Interest

What do you need to know?

- What resources are you lacking to complete the project?

- How much responsibility does each supervisor have?

- What's their level of interest?

- How are you going to engage with each supervisor?

- Do you need to manage them?

- Are there potential conflicts between you and a supervisor? How do you resolve this?

- Are other collaborators involved and have you been involved in establishing guidelines with them eg author on a paper?

The reality of research

- Things go wrong!

- The direction of the research may change based on the results

- New data emerges from the research field

The project plan must anticipate all of this and more…

Use Risk analysis to structure your discussions

Risk (Probability x Impact)
1- 2 : Low
3 - 4 : Medium
6 - 8 : High
9 : Extreme
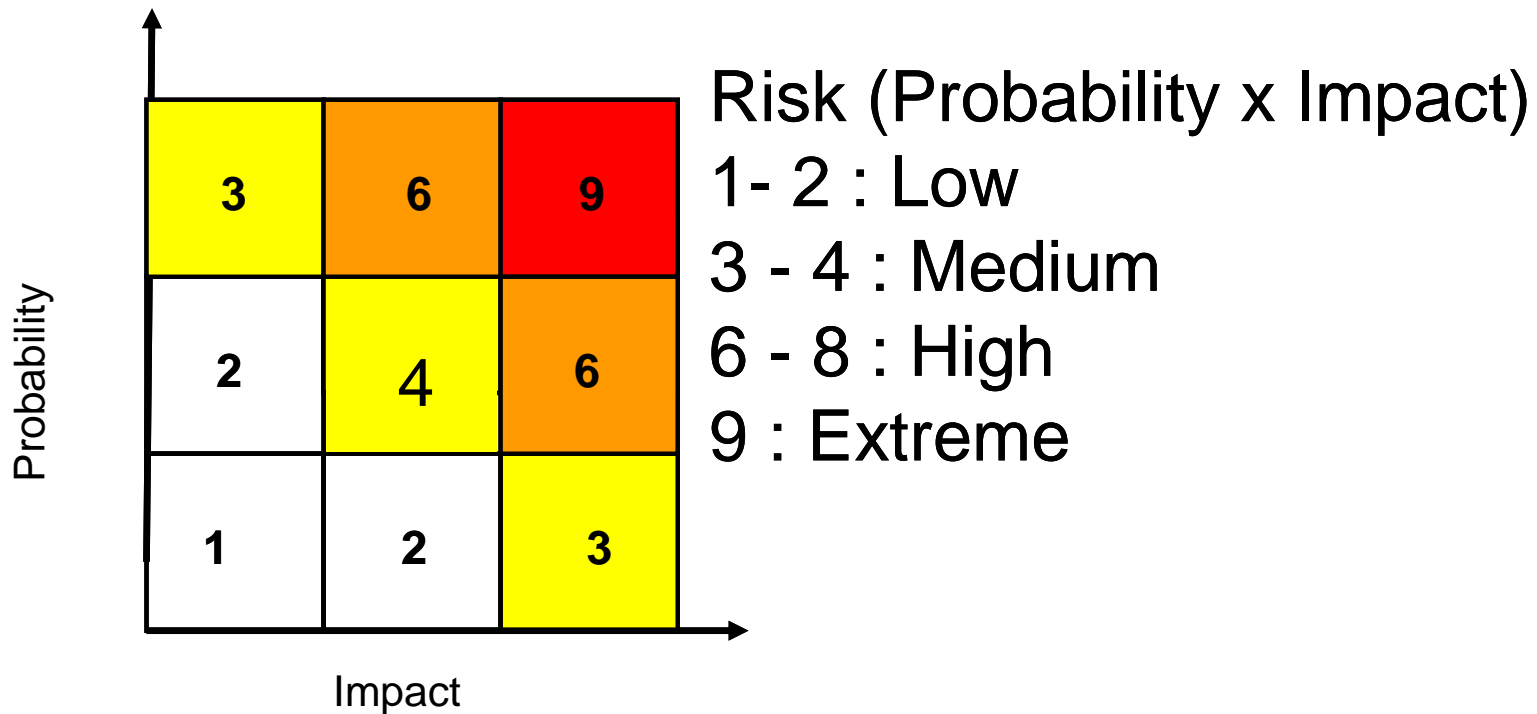
Minimise, eliminate or have a contingency

If you are struggling to develop a plan *or behind schedule?*

This can suggest:

* project objectives are unclear
* You are unconvinced about the project
* The project is too large
* Unsure of responsibilities
* Need additional support or experience

* *Respond to delays early*
* *Consider implications if you adapt the plan*
* *Can you increase resources and/or engage others*

How will you monitor progress?

- Your Workplace supervisor:
  - Should decide on an appropriate communication/monitoring system (type and frequency)
    - steering group meetings
    - regular project team meetings
    - weekly/monthly updates (paper or email)

- Your Academic Supervisor
  - Take responsibility for deadlines on University system
  - Adapt planning timelines from PhD and fix meetings

- Constant communication and transparency- particularly when things go wrong

Summary: research project planning

- Project planning
  - should be a tool not a straightjacket
  - should be dynamic with regular, fixed reviews of progress
  - It can help research team communication
  - It can check on common understanding
    - Between workplace supervisor and academic supervisor but also with line manager, team, collaborators, funders)

  - It helps to ensure research dissemination
    - Papers, presentations, Follow up funding

How do the roles of the two supervisors compare?

Workplace Supervisor	Academic Supervisor
• Detailed knowledge of the project background • Understanding of the constraints on the student • Usually close by to give day–to-day advice	• Understands the academic process for Doctoral degrees • Has experience of supervising PhDs/MDs • Understands the constraints • Can find the University person to provide guidelines for the degree

How do the supervisors interact?

- Usually by skype or teleconference.

- One meeting each year is important/preferable

- Who sets the dates for meeting?

- What happens if project not going well-who identifies this? Who do the supervisors get help from?

- Academic supervisor should take lead on reading drafts of thesis.

What to do if you need advice?

- Your Academic supervisor
  - Contact administrators re guidelines
  - Liaise with Programme Directors about project content
  - Contact MAHSE about deferrals

- Your Workplace supervisor
  - liaise with line manager about time constraints
  - Contact NSHCS on HSST
  - Get advice on funding from the Commissioners

The Examination Process-in brief

- Decide now when thesis should be submitted

- Determine the appropriate format now and perhaps modify with time

- Six months to go - suggest external examiner by discussing at supervisory meeting

- Which of your supervisors will read which parts of the thesis?

- Ensure care is taken to meet the University submission requirements

- Get advice from academic supervisors on the examination process at viva

- Celebrate!!!!!

What skills will you gain?

Collegiality
Team working
People management
Supervision
Mentoring
Influence and leadership
Collaboration
Equality and diversity

Subject knowledge
Research methods: theoretical knowledge
Research methods: practical application
Information seeking
Information literacy and management
Languages
Academic literacy and numeracy

Communication methods
Communication media
Publication

Analysing
Synthesising
Critical thinking
Evaluating
Problem solving

Teaching
Public engagement
Enterprise
Policy
Society and culture
Global citizenship

Inquiring mind
Intellectual insight
Innovation
Argument construction
Intellectual risk

Health and safety
Ethics, principles and sustainability
Legal requirements
IPR and copyright
Respect and confidentiality
Attribution and co-authorship
Appropriate practice

Enthusiasm
Perseverance
Integrity
Self-confidence
Self-reflection
Responsibility

Research strategy
Project planning and delivery
Risk management

Preparation and prioritisation
Commitment to research
Time management
Responsiveness to change
Work-life balance

Income and funding generation
Financial management
Infrastructure and resources

Career management
Continuing professional development
Responsiveness to opportunities
Networking
Reputation and esteem

Working with others (D1)
Communication and dissemination (D2)
Engagement and impact (D3)

Knowledge base (A1)
Cognitive abilities (A2)
Creativity (A3)

Engagement, influence and impact
The knowledge and skills to work with others and ensure the wider impact of research
Domain D

Knowledge and intellectual abilities
The knowledge, intellectual abilities and techniques to do research
Domain A

Domain C
Research governance and organisation
The knowledge of the standards, requirements and professionalism to do research

Domain B
Personal effectiveness
The personal qualities and approach to be an effective researcher

Professional conduct (C1)
Research management (C2)
Finance, funding and resources (C3)

Personal qualities (B1)
Self-management (B2)
Professional and career development (B3)

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A project isn't successful until it's finished!

What one thing will you take away from today's session?