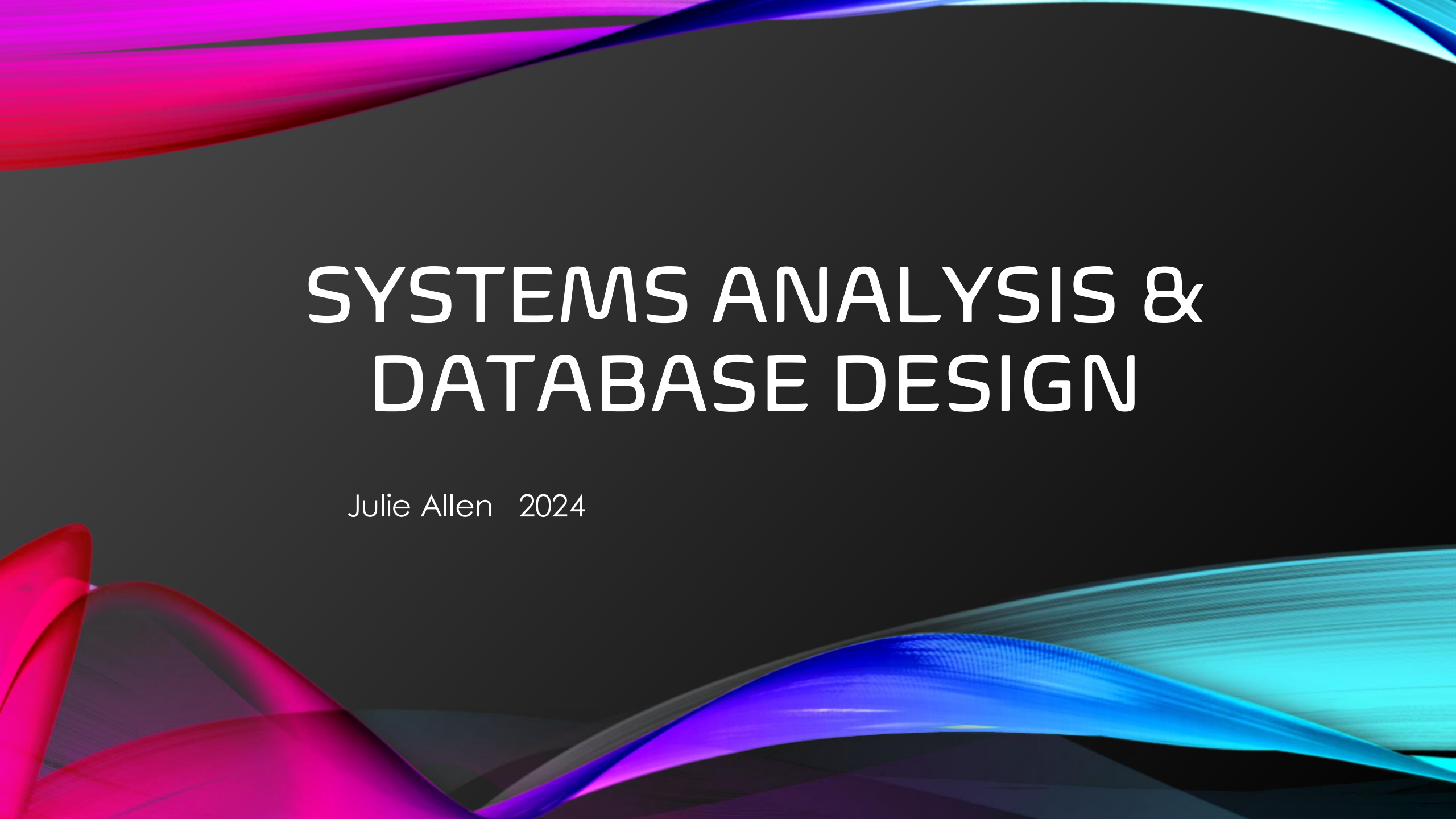




SYSTEMS ANALYSIS & DATABASE DESIGN

Julie Allen 2024



THE EXAM:

- Date: 26th April @ 1pm
- On campus Blackboard exam – use Firefox not Edge or Chrome
- Length of exam: 1 hour 30 (plus any extra time if pre-agreed through student support services)
- Exam questions: mix of multiple choice, matching questions, multiple answer questions, longer questions

ON THE DAY...

Arrive early: aim to be outside the exam room 15 minutes before the start.

Bring with you a pen – to complete an attendance slip and to make notes if you wish (we will provide the paper).

Bring your student card for identification – place it on the desk where we can see it.

Believe in yourself – you can do this.

ON THE DAY...

On the day two exam links will appear – the MAIN exam and the PEP exam.

If you are in one of the main exam rooms (EIC111, DB325, CM033, HA345) you should open the MAIN exam.

If you are entitled to extra time, you are likely to be in a different room and should use the PEP exam.

The only difference is the exam duration.

ON THE DAY...

When you enter the exam room you should find a pc and log on to Blackboard (using Firefox).

The exam is password protected – your tutor will share the password at the start of the exam.

The exam only allows one attempt – do NOT close the browser until you have finished the exam, otherwise you will not be able to finish the exam.

You should only have one window open on the computer – one browser window containing Blackboard.



Q. HOW MANY QUESTIONS ARE THERE IN THE EXAM?

There are between 30 and 35 questions in total. Some are multiple choice, some multiple answer, some matching questions, and some questions where you need to write a paragraph or more.



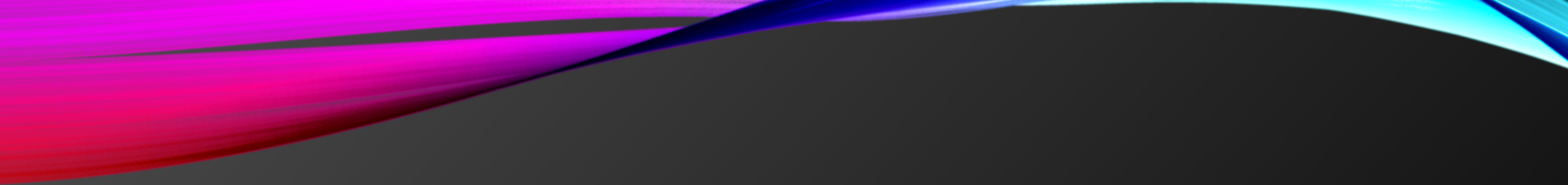
Q. CAN WE ASK QUESTIONS DURING THE EXAM IF
WE NEED CLARIFICATION ON WORDING?

Yes. Raise your hand and wait for an invigilator.



Q. WILL I HAVE TO DRAW ANY DIAGRAMS?

No. But you may have to answer questions about diagrams.



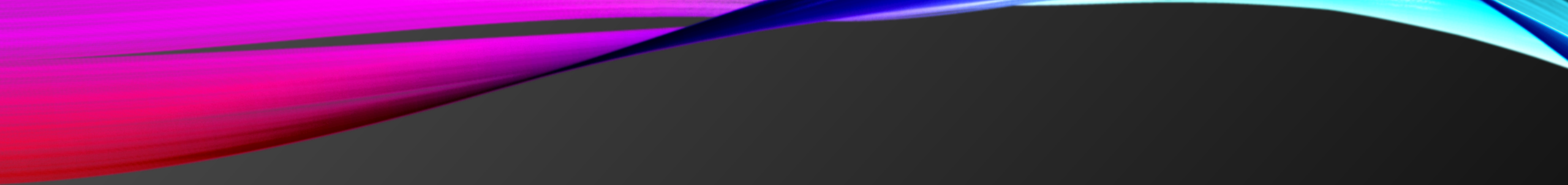
Q. CAN WE BRING NOTES INTO THE EXAM?

No. But there will be plain paper available for you to make notes during the exam.

Q. CAN I DO THE EXAM FROM HOME?

No. It is an invigilated exam on campus taken via Blackboard and will be password protected.

You cannot do it anywhere except in the designated exam rooms (you must take the exam in the room shown on your timetable).



Q. HOW COMPLEX ARE THE SQL QUESTIONS?

No more complex than what we have done in class.

REVISION TOPICS:

- UML - Use Case and Activity diagrams - Including notation of each diagram
- Requirements gathering techniques: interviews, questionnaires, shadowing, document analysis, etc.
- Requirements: functional vs non-functional, MoSCoW technique, User Stories
- Compare lifecycles: Waterfall, Agile, DSDM, Scrum, Kanban, etc.
- SQL – DDL and DML statements – SELECT statement – WHERE clause – JOINS, etc.

MORE REVISION TOPICS:

- Data Validation and Verification
 - Data dictionaries (Input Masks, Range Check, Problems inputting data, Data types)
 - Data, Entity and Referential Integrity
- Normalisation (0NF - 1NF - 2NF - 3NF)
- Transactions and the Problems of Concurrency
 - ACID test
 - Lost update, uncommitted dependency, inconsistent analysis
 - Locking – 2-phase locking, pessimistic, optimistic, deadlock, etc.
- Approaches To Installation (Single Location, Direct, Parallel, Phased)

COMMON REVISION PITFALLS

- Leaving revision until the last minute
- Reading through notes over and over again
- Writing out notes over and over again
- Finding ways to put the revision off



PROCRASTINATION

- Procrastination is something that we all do.
- We put things off when they seem like they will be difficult.
- We put things off when we think it will be boring.
- We put things off when we don't know where to start,



CREATE A REVISION TIMETABLE



- The goal is to define and limit the time that you spend on an activity.
- Shorter revision sessions don't feel as daunting.
- It is easier to start as you are defining the scope for each session.
- Clearly defined tasks don't feel as difficult.

THE POMODORO TECHNIQUE

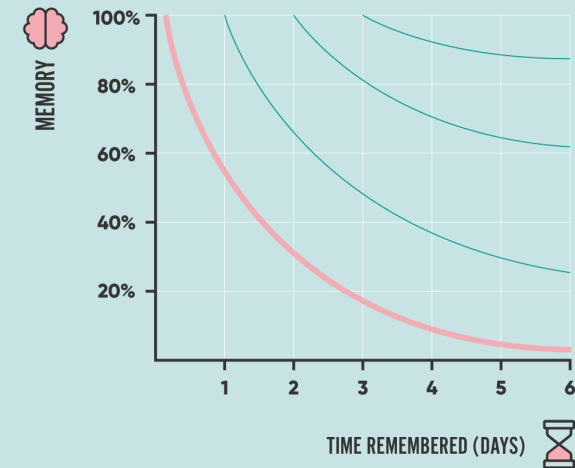


- Remove all distractions.
- Set a timer for 25 minutes.
- Focus fully on the task for the 25 minutes.
- When the time is up do something else – reward yourself.

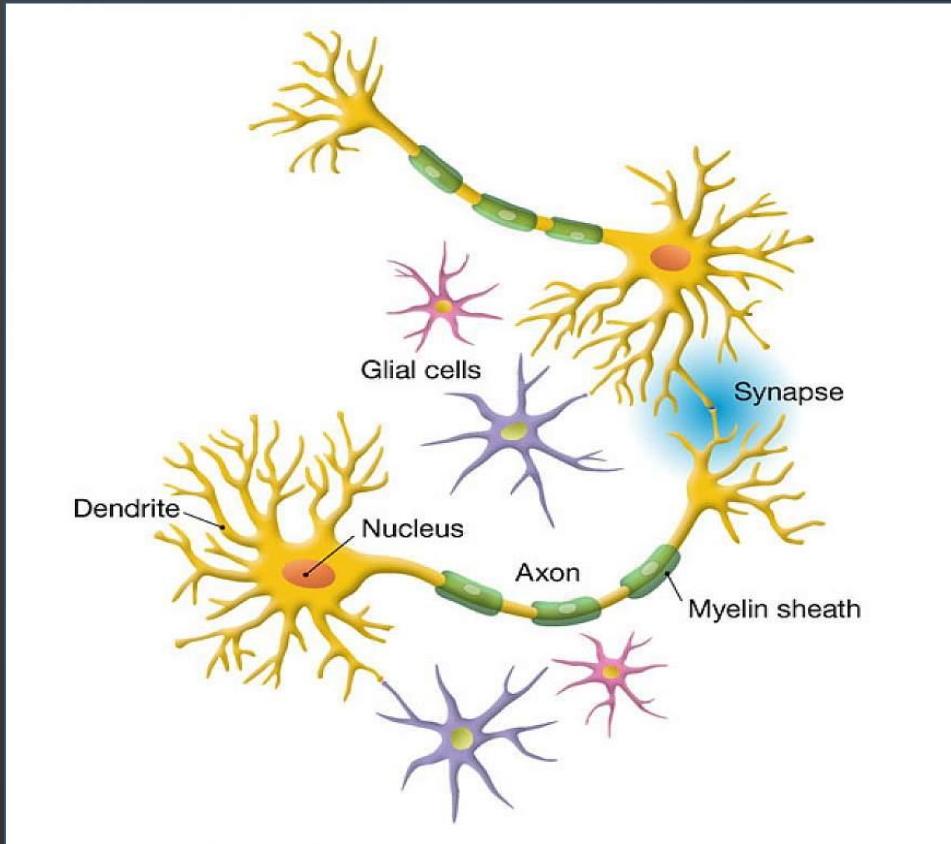
THE FORGETTING CURVE

- Hypothesised by Herman Ebbinghaus in 1885.
- The theory is that we forget what we have learnt over time
- And we forget most of the information within the first day or two of learning
- After 7 days we only remember a very small percentage of what we learnt.

THE FORGETTING CURVE



PRACTISE - PRACTISE - PRACTISE



- When you learn something new your brain changes
- Repetition strengthens the links in our brains
- The more you practise something the more you understand it.

Revisit each topic several times

BEING MORE ACTIVE



- Be an active learner
- Don't just read about it – practise it.
- Keep adapting your practise as new concepts are learnt.

“We learn by doing. Only knowledge that is used sticks in our mind”

Dale Carnegie

WRITE IT DOWN

THE CORNELL NOTES

“CUE COLUMN”

《Notetaking Column》

1. RECORD: DURING THE LECTURE, RECORD THE LECTURE USING CONCISE SENTENCES & KEYWORDS, IN THIS COLUMN.

2. QUESTIONS: AFTER LECTURE, FORMULATE Qs BASED ON NOTES ON RHS COLUMN. QUESTIONS HELP:
→ CLARIFY MEANING
→ REVEAL RELATIONSHIP
→ ESTABLISH CONTINUITY
→ STRENGTHEN MEMORY

3. RECITE: COVER THIS COLUMN WITH A PIECE OF PAPER. THEN LOOK AT THE QUESTIONS FROM 2 & TRY TO ANSWER THEM FROM MEMORY, IN YOUR OWN WORDS.

4. REFLECT: REFLECT BY ASKING YOURSELF:
→ WHAT'S THE SIGNIFICANCE OF THIS FACT?
→ WHAT PRINCIPLE ARE THEY BASED ON?
→ HOW CAN I APPLY THEM?
→ HOW DO THEY FIT IN WITH WHAT I KNOW ALREADY?
→ WHAT'S BEYOND THEM?

5. REVIEW: SPEND TIME REVIEWING ALL YOUR PREVIOUS NOTES AT THE END OF EACH WEEK.

ADAPTED FROM
"HOW TO STUDY IN COLLEGE"
(7th ed.) BY W. PAUK

PENSANDMACHINE

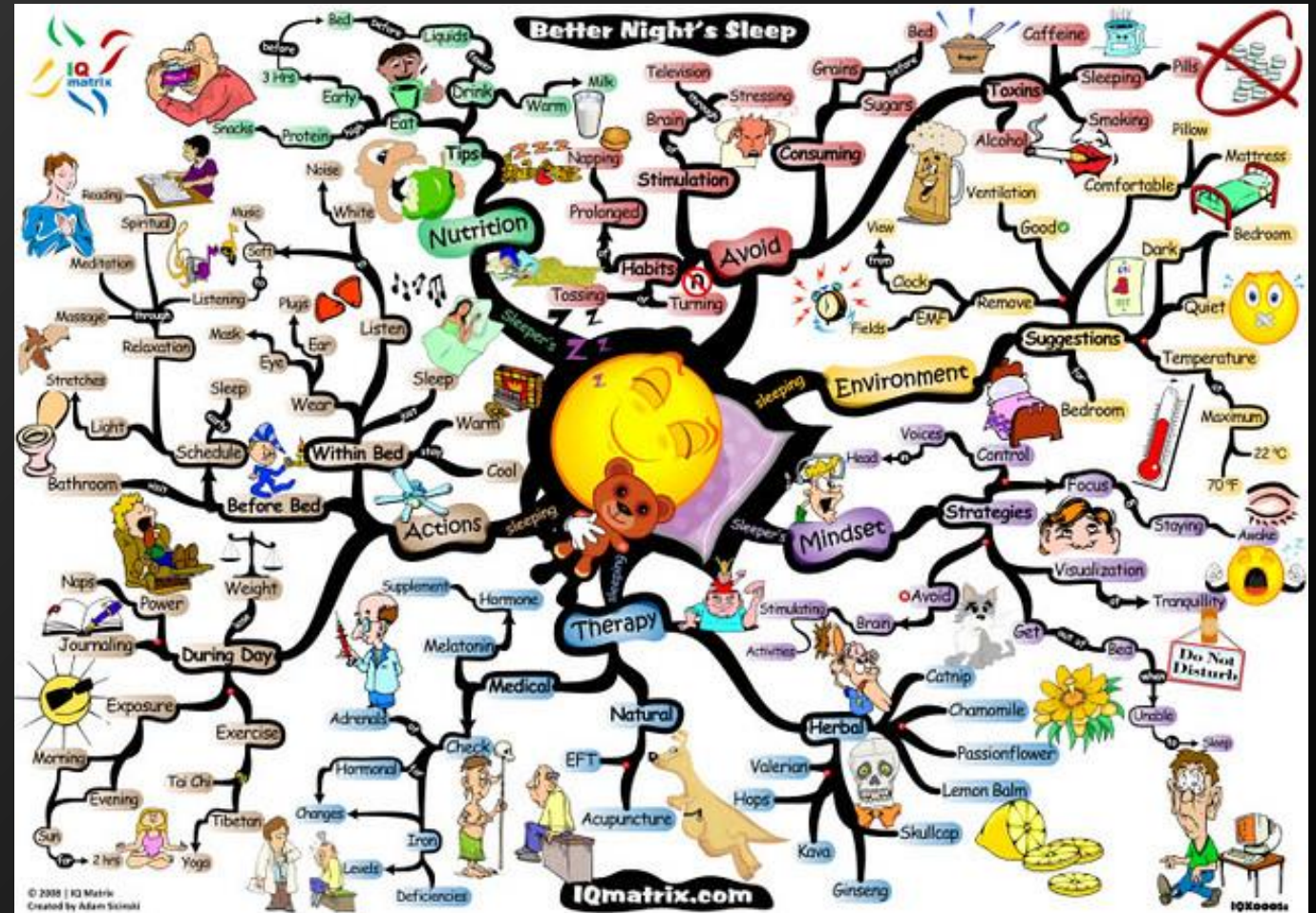
[SUMMARY]

AFTER CLASS, SUMMARIZE THE NOTES ON THIS PAGE.

- Don't just copy from the slides word for word – summarise!
- Focus on the important bits.
- Get rid of the laptop – write it out by hand.
- Write in phrases, not full sentences.
- Use bullet points and lists.
- Use highlighters and coloured pens.
- Review and revise your notes.

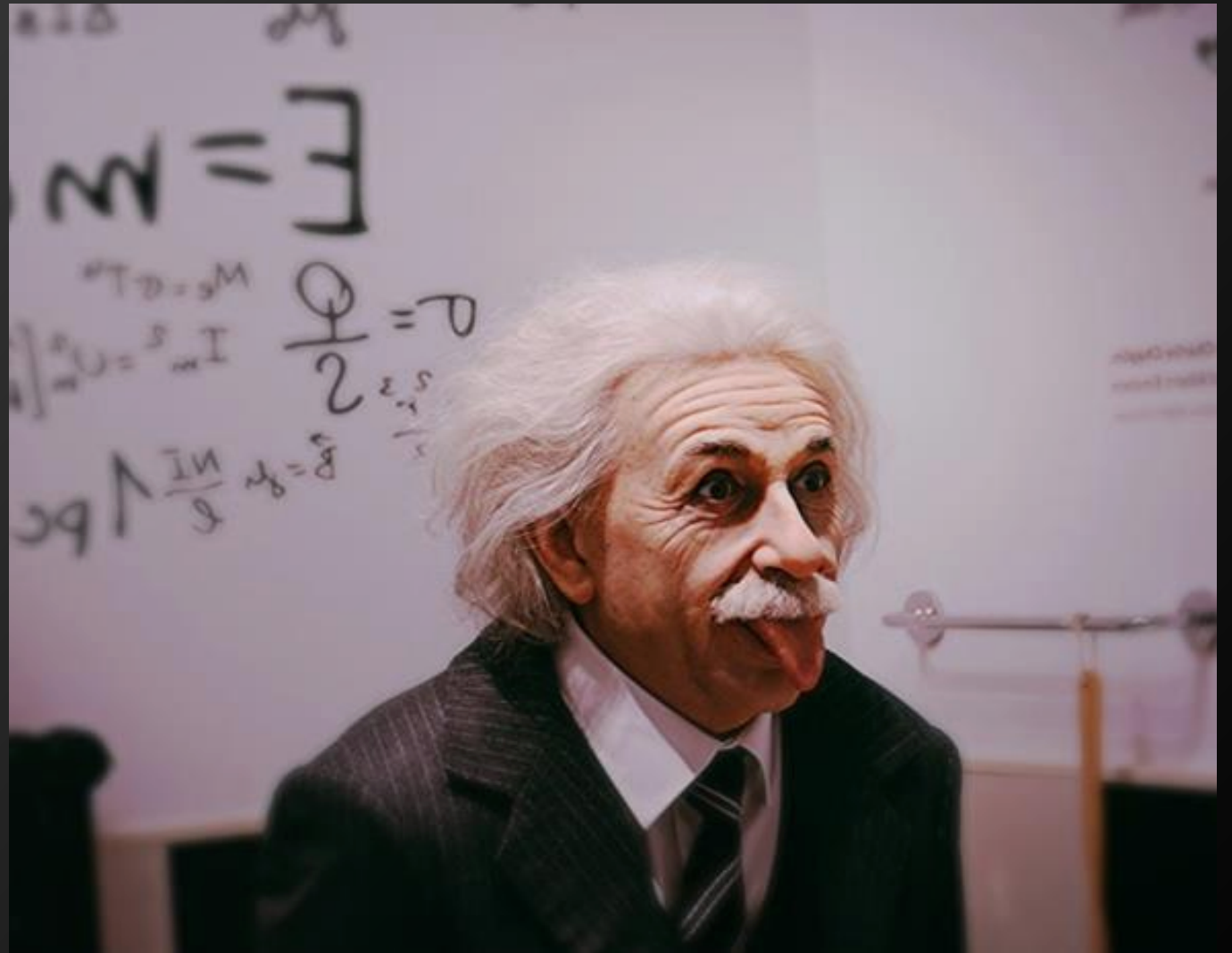
MIND MAPS

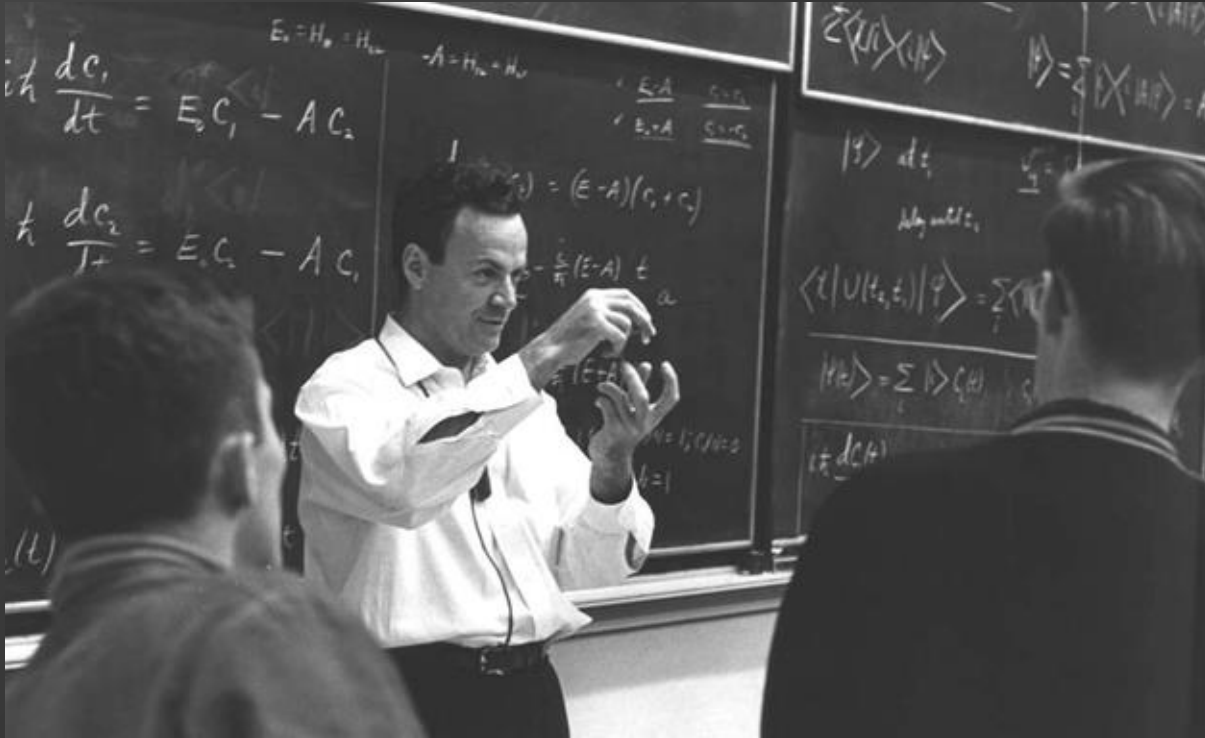
- A diagram used to visually organise information.
- Whilst creating a mind map you are having to think how things fit together, how they are related, how will I remember it when I need to.



“If you can't explain it
to a 6-year old, then
you don't understand
it yourself”

Albert Einstein





The Feynman Technique

1. Choose a topic you want to learn.
2. Pretend to teach it to a child.
3. Identify gaps in your explanation – study again.
4. Simplify your explanation.

“If you want to master something, teach it”

Richard Feynman

THE STUDY ENVIRONMENT



- Make your study environment as comfortable as possible
- Remove all distractions.
- It doesn't always have to be the same place.

Work with what you have.
Find your own little spot.

BEATING PROCRASTINATION



- Understand that this is just how it is.
- Just get started – try the 5,4,3,2,1 technique.
- Accept the process, embrace the struggle, and enjoy it...
- And wait for the results to come.

Inside the Mind of a Master Procrastinator – Tim Urban

AND FINALLY – BEFORE THE EXAM

Get a good night's sleep – don't revise all night.

Have a good breakfast.

Review your notes.

Believe in yourself – you can do this.

REVISION RESOURCES

On Blackboard:

- Revision Quizzes – questions taken from past exam papers – can take as many times as you like – just for fun, the marks don't count
- This week's lab – past exam questions

EXAM REGULATIONS

5.4.1 Entering the examination venue :

- a) You should arrive at an examination room no later than 15 minutes before the start of an examination and wait quietly outside until admitted by an invigilator. Do not communicate with other candidates after entering the examination room.
- b) You must leave all personal belongings including electronic devices (e.g. phones) in the area defined by the invigilator.
- c) You may only take to your desk the equipment required to complete the examination which must be clearly visible to the invigilators. If you wish to use a pencil case or small bag, it must be made of clear plastic.
- d) You may take one drink to your desk which must be contained within a clear bottle.
- e) No-one will be allowed to enter the examination room after the first 30 minutes of the examination.

EXAM REGULATIONS

5.4.2 Before the examination commences :

- a) You must place your UCLan Card on the corner of your desk with the photograph side upwards to assist the invigilators in checking your identity. You may provide an alternative form of evidence as proof of identity including a valid passport or driving licence. If you fail to bring any proof of identity with you to an examination you will be asked to remain behind at the end of the examination until your identity can be verified.
- b) You should check that the correct examination paper is in front of you and complete all the details on the front of the answer book and the attendance slip when asked to do so by the invigilator;
 - (obviously we are doing this online, so make sure that you sign in. There will be an attendance slip)

EXAM REGULATIONS

5.4.3 During the examination :

- a) You should start each answer at the top of a page unless told otherwise in the examination paper. Question numbers must be written in the left-hand margin and the rest of the left and right margins left blank. If additional answer books are needed please raise your hand. You should number any additional books used, and clearly label them with your student number.
- b) If you have a question regarding the accuracy of the examination paper, please raise your hand.
- c) If you wish to visit the toilet, please raise your hand and you will be accompanied by an invigilator.
- d) You may not leave the examination room during the first 30 minutes or last 30 minutes of the examination unless the reason relates to visiting the toilet, illness or emergency.

EXAM REGULATIONS

5.4.4 Conduct :

- a) You must not speak to or communicate in any way with anyone other than invigilators during the examination.
- b) You must not behave in any manner which may disturb other candidates.
- c) You must behave in a reasonable manner at all times or you may be expelled from the examination room and not allowed to return. Further disciplinary action may also be taken.
- d) If you are suspected of using unfair means in an examination, you will be cautioned and the matter will be investigated in accordance with the Academic Regulations.

5.4.5 At the end of the examination :

- a) If you finish the examination early (before the last 30 minutes), please raise your hand and wait for your examination script to be collected before leaving the room quietly.
- b) You must remain seated and silent until all the answer books have been collected and you are told by an invigilator that you can leave the room.

RESOURCES

1. <https://francescocirillo.com/pages/pomodoro-technique>
2. <https://www.psychestudy.com/cognitive/memory/ebbinghaus-forgetting-curve>.
3. <https://larrycuban.wordpress.com/2016/01/16/zombie-ideas-again-the-learning-pyramid/>
4. <https://linguistics.ucla.edu/people/hayes/Teaching/papers/MuellerAndOppenheimer2014OnTakingNotesByHand.pdf>
5. https://www.researchgate.net/publication/225631292__ - (Mind Mapping)
6. <http://healthysleep.med.harvard.edu/healthy/matters/benefits-of-sleep/learning-memory>
7. Gladwell, M., 2009. Outliers: The Story of Success.
8. Newport, C., 2016. Deep Work: Rules for Focused Success in a Distracted World.
9. Oakley, B., PhD and Sejnowski, T., PhD., 2018. Learning How To Learn: A Guide for Kids and Teens.