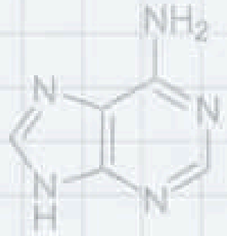
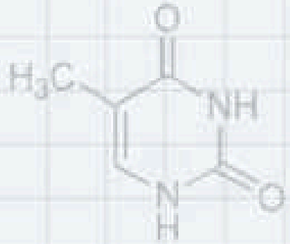
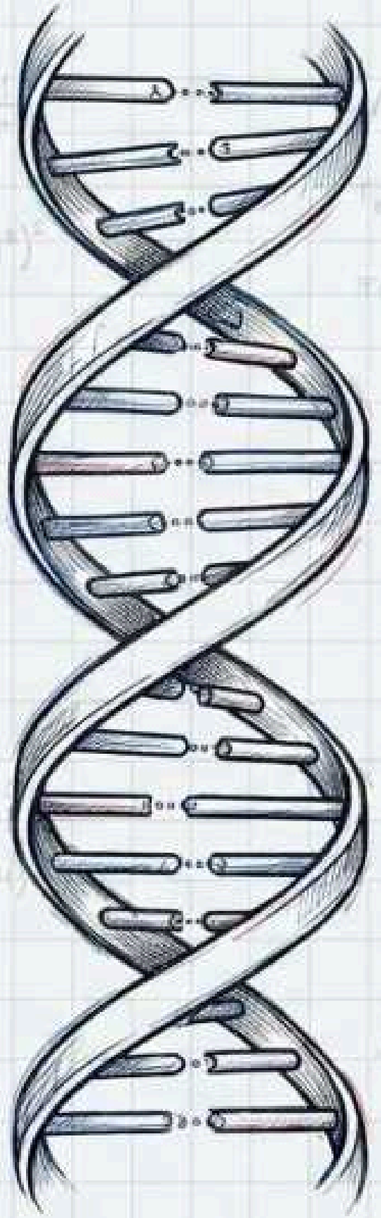
Adenine (A) = N-9H-purin-6-amine



Thymine (T) = 5-methylpyrimidine-2,4(1H,3H)-dione

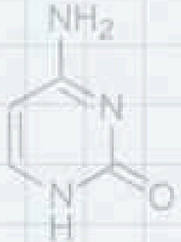


MED 503 B

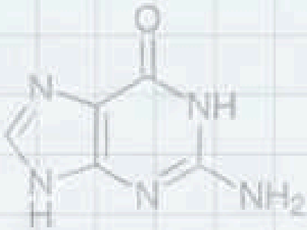


Genetics in Modern Medicine

Lecture 0: Course Overview



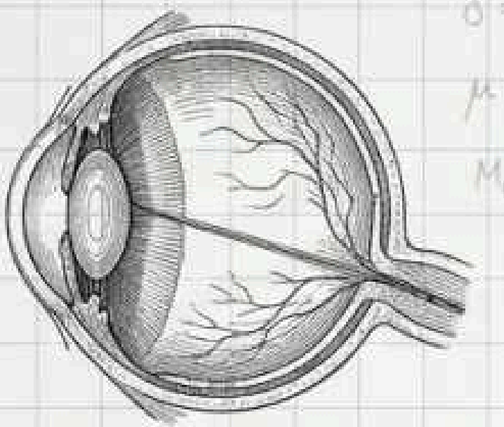
Cytosine (C) = 4-aminopyrimidin-2(1H)-one



Guanine (G) = 2-amino-1H-purin-6(4H)-one

Anderson Academy

¶ 0.1



Phenotypic variation

Genetics

Study of inheritance & variation.

Medical Genetics

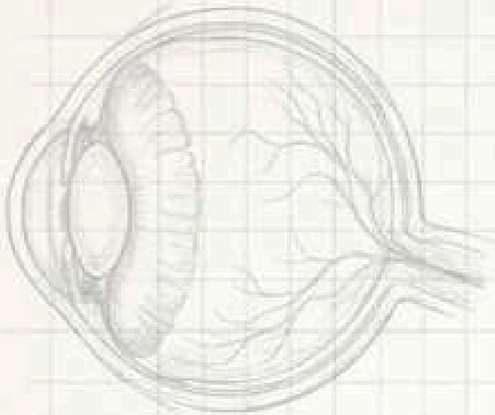
How differences in our DNA shape health and disease.

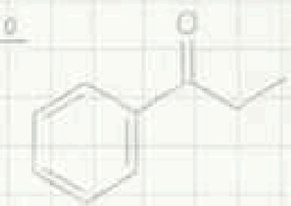
Medicine

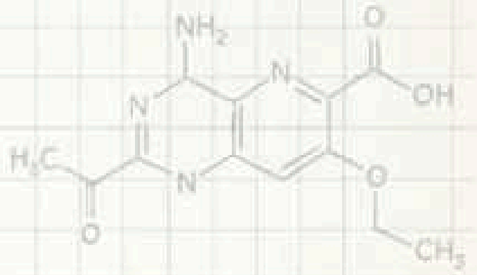
Prevent, diagnose, treat.

MED 503 B: A first-year course modelled on the Harvard and MIT Health Sciences and Technology subject of the same name.

¶ 0.2





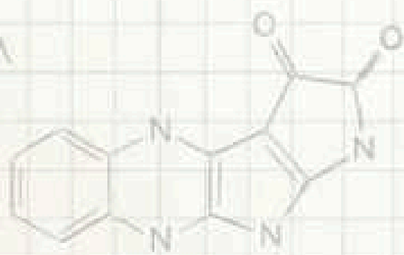


Email: garyanderson@mail.grokbot.com

X (Twitter): @garyanderson

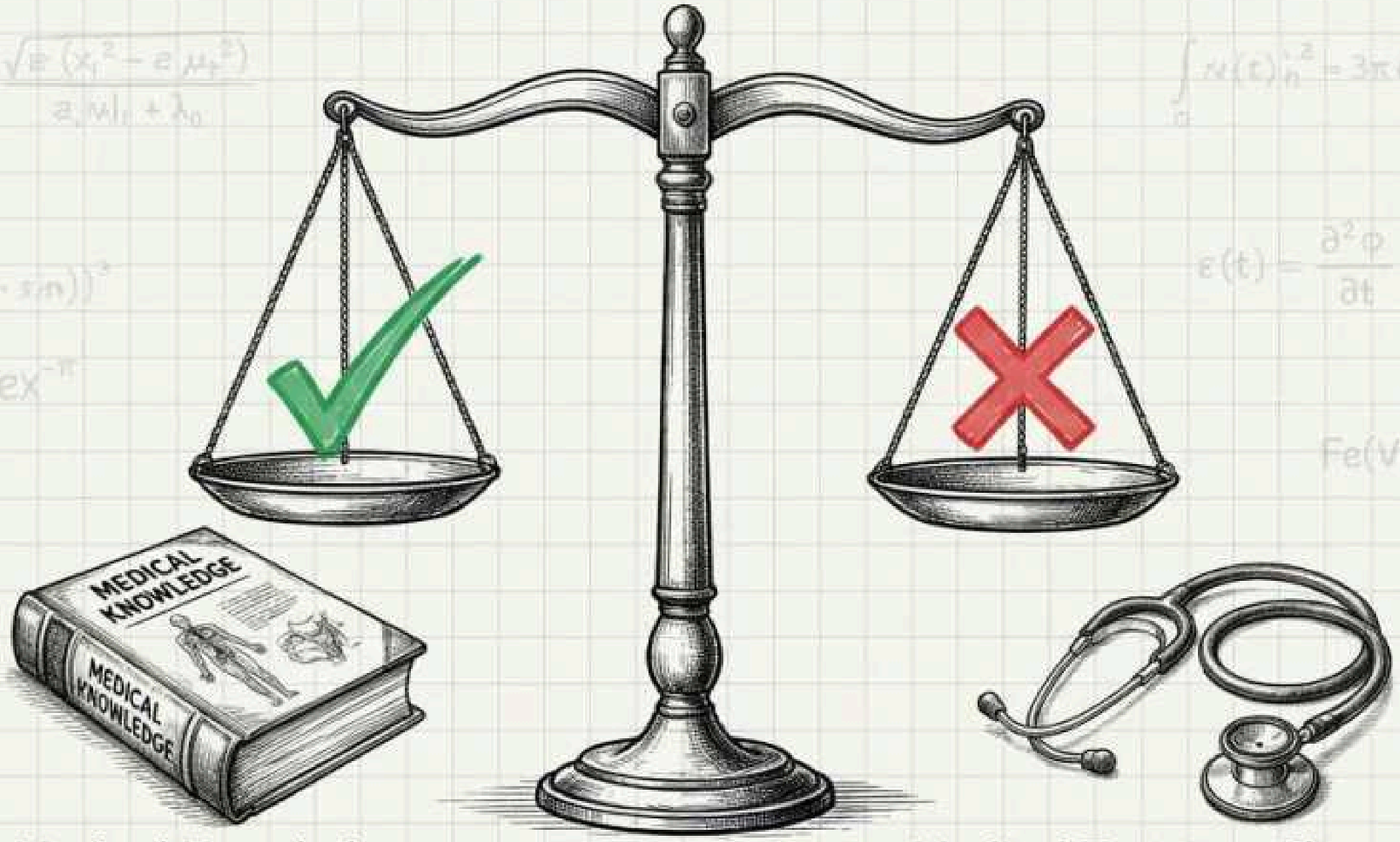
Questions and feedback welcome.







¶ 0.3

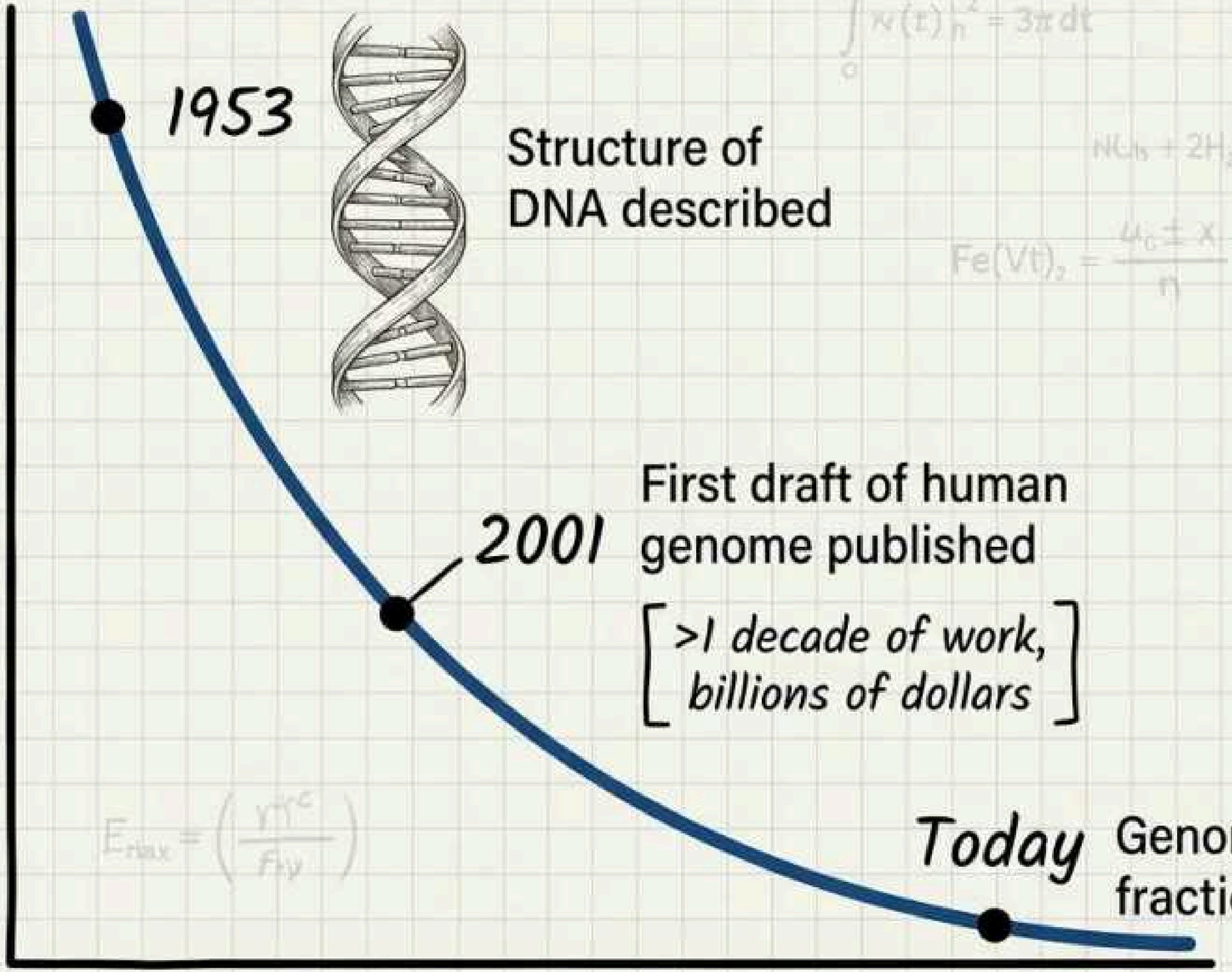


Medical Knowledge,
Academic Study.

Medical Training, Clinical Skills,
Licensure, & Medical Advice.

Genetics touches families deeply. For questions about your own genes, a family condition, or a genetic test, consult your doctor or a genetic counsellor.

¶ 0.4



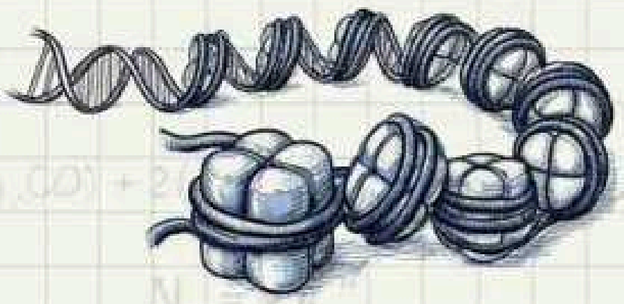
Why it matters now

- Genetic tests now guide care for:

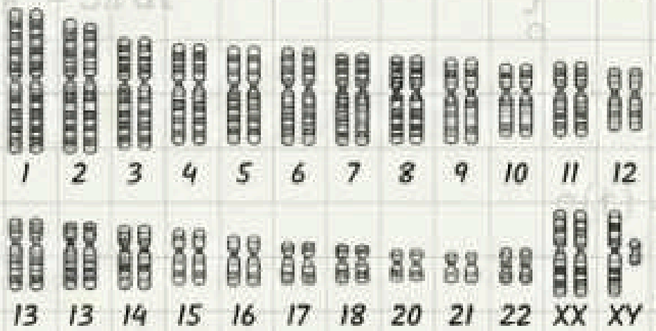
  Newborns | Pregnant women | Oncology | Pharmacogenetics

¶ 0.5

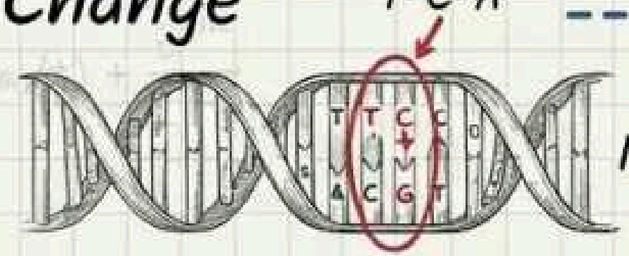
Storage & Reading



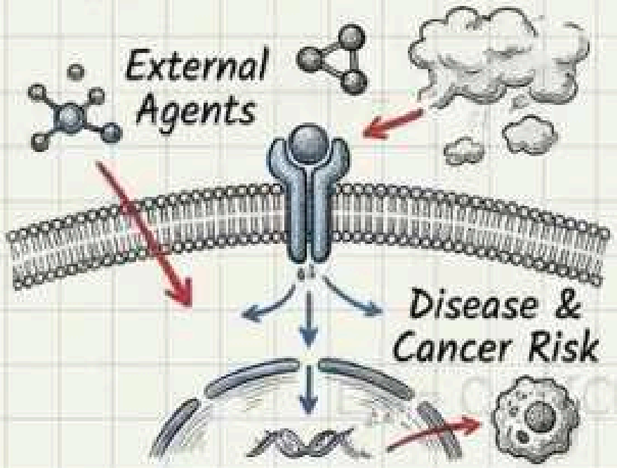
Chromosomes



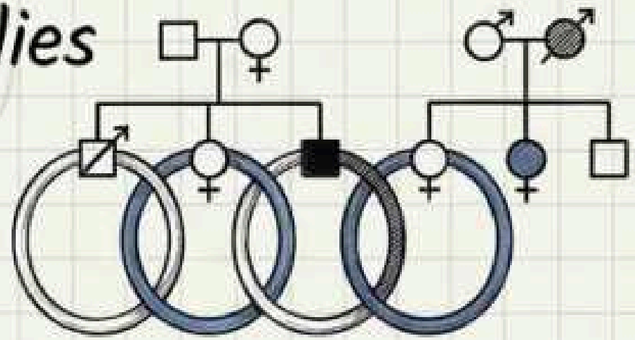
Change



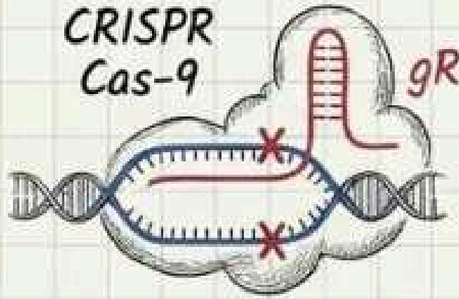
Environment + Genes



Families



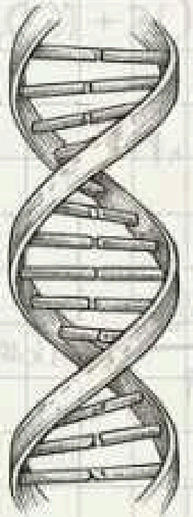
Ethics & Therapy



Gene Editing
Therapeutic Potential

¶0.6

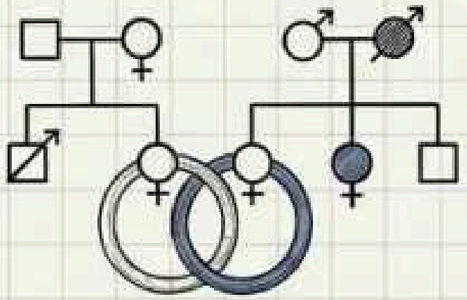
Lecture 1: DNA, Genes and the Genome



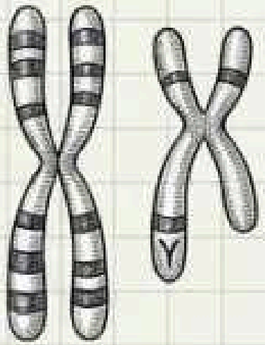
Lecture 2: Mutation and Variation



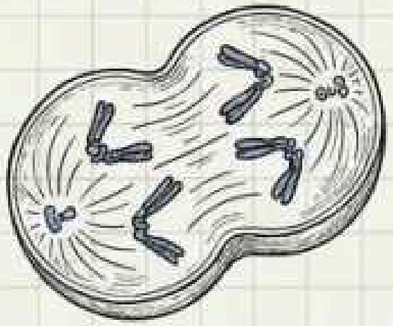
Lecture 3: Classic Patterns of Inheritance



Lecture 4: Chromosomes and their Disorders

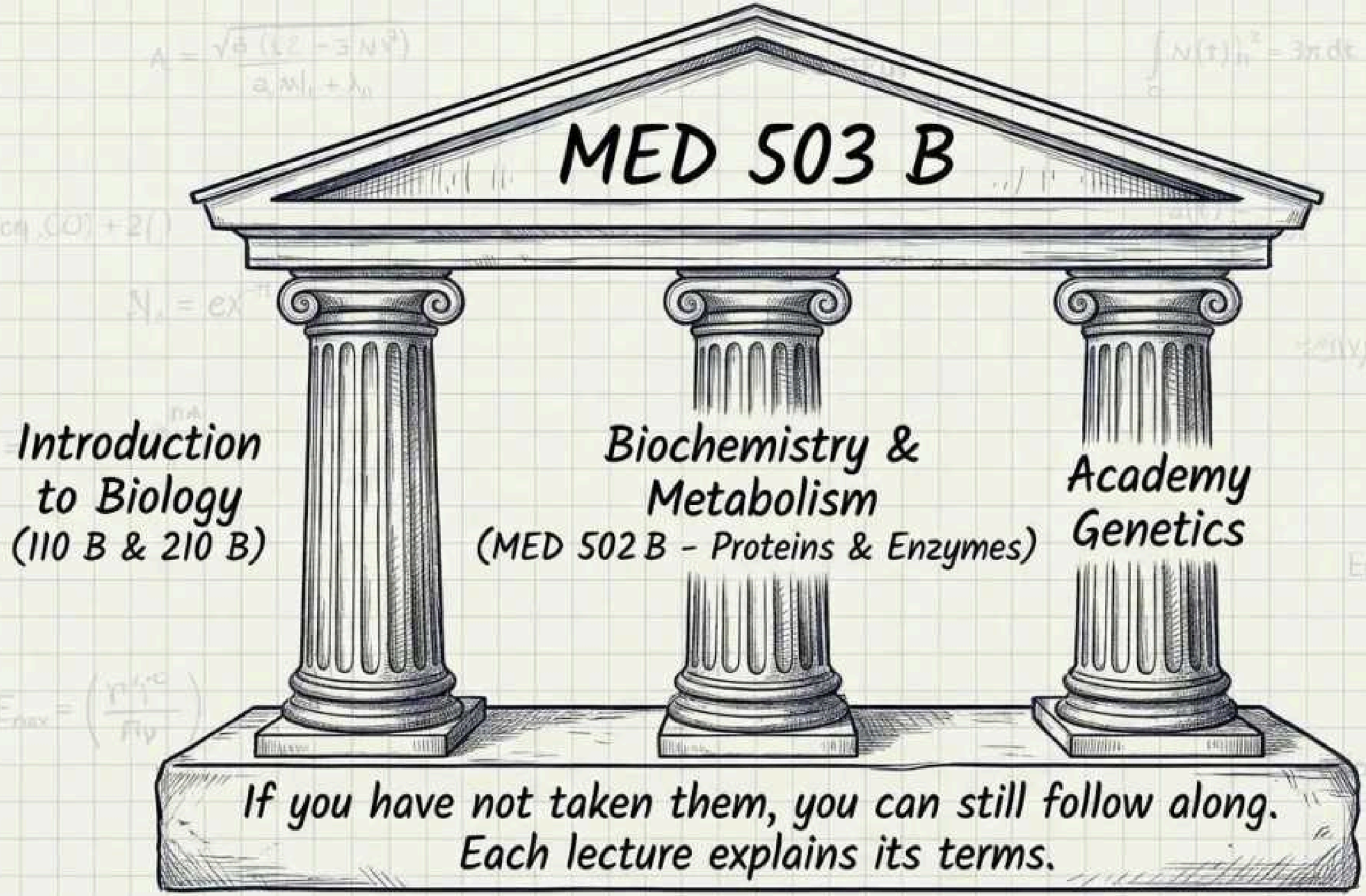


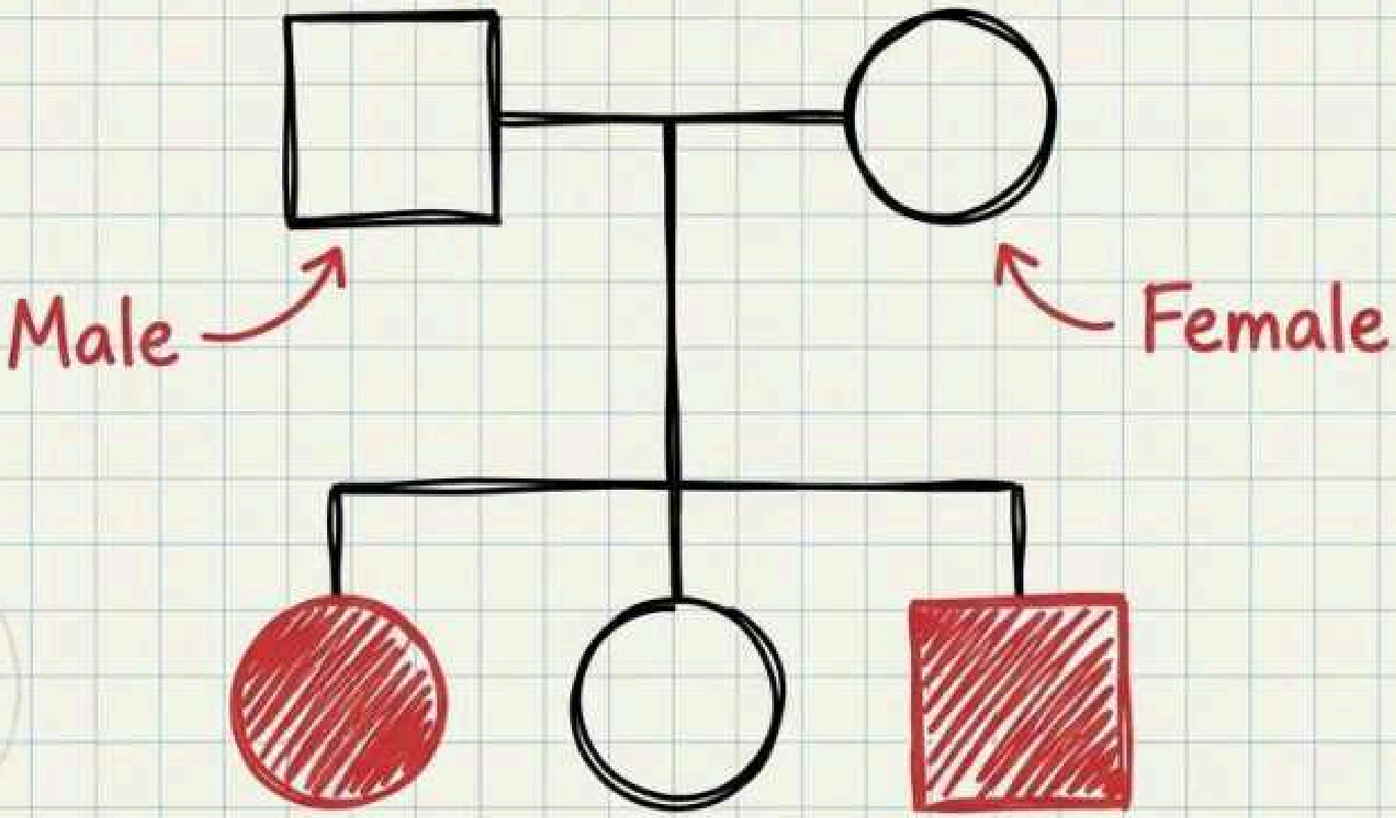
Lecture 5: Common Diseases and Cancer Genetics



Lecture 6: Genetic Testing, Treatments & Ethical Questions

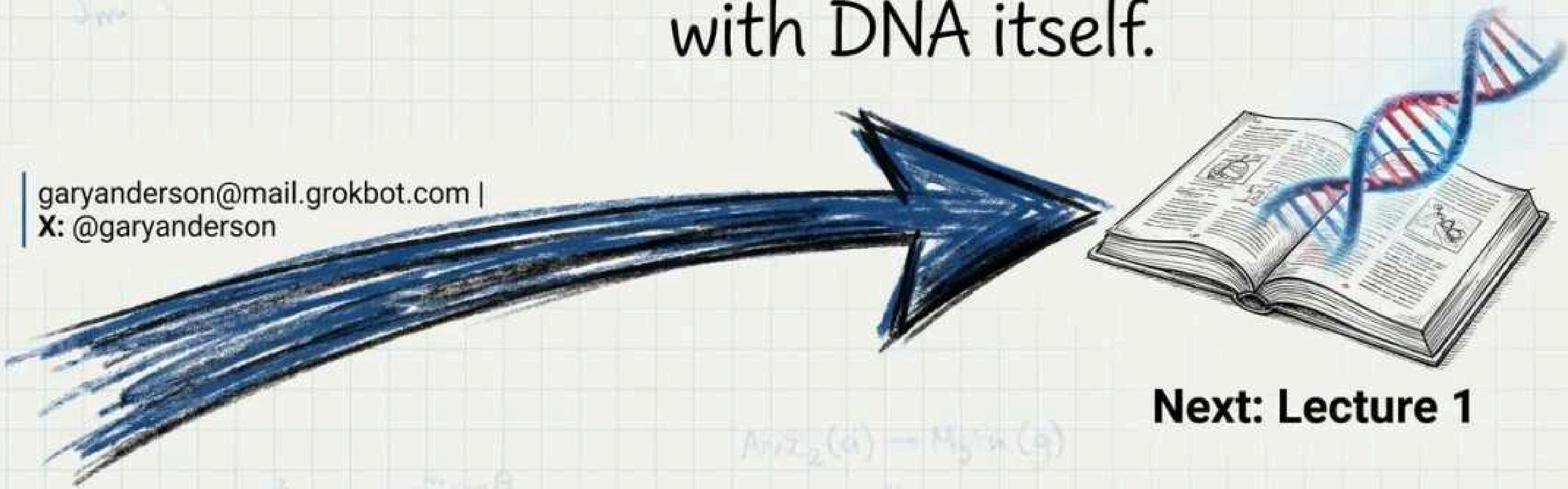



MED 503 B
Introduction to Biology (110 B & 210 B)
Biochemistry & Metabolism (MED 502 B – Proteins & Enzymes)
Academy Genetics
If you have not taken them, you can still follow along.
Each lecture explains its terms.



A practical tip: Genetics is a subject of diagrams. Draw pedigrees by hand. Doing this is the quickest way to make inheritance patterns your own.

Now let us begin with DNA itself.



garyanderson@mail.grokbot.com |
X: @garyanderson

Next: Lecture 1