



1ST MEGMA

BASIC GENETICS AND INBORN ERRORS OF METABOLISM DIAGNOSTICS AND THERAPEUTICS

COURSE



**6-7 JUNE
2026
RIYADH - KSA**

TARGET AUDIENCE

1

Medical Genetics
Fellows and
Consultants

2

Clinical Lab
Scientists

3

Genetic Counselors
and Nurses

4

Pediatrician
and Neurologists

5

Physicians





1st MEGMA

BASIC GENETICS AND INBORN ERRORS OF METABOLISM DIAGNOSTICS AND THERAPEUTICS COURSE

OBJECTIVES:

1. Education about advanced therapeutic options for genetic defects and inborn errors of metabolism disorders, including enzyme replacement and gene therapies.
2. Know the basic genetics concepts, common genetics syndrome.
3. Identify clinical signs and symptoms of common Inborn Errors of Metabolism (IEM).
4. Training on Bayesian analysis to assess genetic risk.
5. Interpret biochemical laboratory tests for accurate diagnosis including tandem MS, plasma amino acids and urine for organic acids.
6. Interpret Cytogenetics laboratory tests for accurate diagnosis including karyotype, FISH and CGH microarray.
7. Interpret molecular laboratory tests for accurate diagnosis including whole exome sequencing (WES) and whole genome sequencing (WGS).
8. Execute emergency management plans for acute metabolic decompensation.
9. Provide effective genetic counseling and ethical guidance to affected families.





1st MEGMA

BASIC GENETICS AND INBORN ERRORS OF METABOLISM DIAGNOSTICS AND THERAPEUTICS COURSE

Day1
Friday 6th June

Clinical, Biochemical and Laboratory genetics

07:30 - 08:30 *Registration*

08:30-09:00 | **Opening Remarks**
Prof. Majid Alfadhel

09:00-09:30 | **Basic Genetics 1**
TBD

09:30-09:55 | **Basic Genetics 2**
TBD

09:55-10:20 | **Sponsored scientific lecture title to be determined**
TBD

10:20-10:30 | **Discussion**

10:30-10:50 | **Coffee break**

10:50-11:15 | **Clinical Cytogenetics 1**
TBD

11:15-11:40 | **Clinical Cytogenetics 2**
TBD

11:40-12:00 | **Sponsored scientific lecture title to be determined**
TBD

12:00-12:10 | **Discussion**

12:10-13:30 | **Lunch break**



1st MEGMA

BASIC GENETICS AND INBORN ERRORS OF METABOLISM DIAGNOSTICS AND THERAPEUTICS

COURSE

Day1

Friday 6th June

Clinical, Biochemical and Laboratory genetics

013:30-13:55	Molecular Genetics 1 TBD
13:55-14:20	Molecular Genetics 2 TBD
14:20-14:45	Bayesian analysis and Risk assessment TBD
14:45-15:10	Sponsored scientific lecture title to be determined TBD
15:10-15:15	Discussion
15:15-15:30	Coffee break
15:30-15:55	Newborn screening and Tandem Mass Spectrometry (TMS)-1 TBD
15:55-16:20	Plasma aminoacids -1 TBD
16:20-16:45	Urine for Organic Acids-1 TBD
16:45-16:55	Discussion
18:00-20:00	Gala Dinner
20:00-20:05	Closure of the first day





1st MEGMA

BASIC GENETICS AND INBORN ERRORS OF METABOLISM DIAGNOSTICS AND THERAPEUTICS COURSE

Day 2

Saturday 7th June

Clinical, Biochemical and Laboratory genetics

08:30-09:00	Newborn screening and Tandem Mass Spectrometry (TMS)-2 TBD
09:00-09:30	Plasma amino acids -2 TBD
09:30-09:55	Urine for Organic Acids-2 TBD
09:55-10:20	Sponsored scientific lecture title to be determined TBD
10:20-10:30	Discussion
10:30-10:50	Coffee break
10:50-11:15	Biochemical Genetics-1 TBD
11:15-11:45	Biochemical Genetics-2 TBD
11:45-12:10	Update on the Diagnosis and Treatment of Inborn Errors of Metabolism TBD
12:00-12:10	Discussion
12:10-13:30	Lunch break





1st MEGMA

BASIC GENETICS AND INBORN ERRORS OF METABOLISM DIAGNOSTICS AND THERAPEUTICS COURSE

Day 2

Saturday 7th June

Clinical, Biochemical and Laboratory genetics

13:30-13:55	Important Concepts in Genetics TBD
13:55-14:20	Syndromes that Every Geneticist Should Know TBD
14:20-14:40	Whole Exome Sequencing and Whole Genome Sequencing Interpretation TBD
14:40-15:00	Sponsored scientific lecture title to be determined TBD
15:00-15:10	Discussion
15:10-15:30	Coffee break
15:30-15:55	Reproductive Genetics TBD
15:55- 16:20	MCQ Preparation Tips TBD
16:20-16:45	Sponsored scientific lecture title to be determined TBD
16:45-16:55	Discussion
16:55-17:00	Closure of the Course

