

Einas Osman

From: Einas Osman
Sent: 22 May 2024 13:45
To: Emad Hussein; Rabab Mahmoud; Tahani Al Jadili; Masooma Al Lawati; Noha Osama Abdulateef; Tasabih Mohammed Saifeldin
Subject: MDLS summer crash course meeting

Dear ALL,

The first meeting to organize the MDLS summer crash course will be tomorrow in Thursday 23/05/2024 10 o'clock morning at meeting room.

Thank you.

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Crash course Timetable 2024

Start date: 23.06. 2024

Venue: Medical (001) and microbiology (006) laboratories

Week 1	Date	Lab 1 (09:00 am – 11: 00 am) (Hematology) G1	Lab 1 (09:00 am – 11: 00 am) (Microbiology) G2	Lab 2 (11:30 am– 01:30 pm) (Hematology) G2	Lab 2 (11:30 am– 01:30 pm) (Microbiology) G1
Day (1)	Sunday 23.06.2024	Anemia (Case Study) <i>Hb estimation</i> <i>RBCs count</i> <i>PCV</i>	1. Urinary tract infections (D1)	Anemia (Case Study) <i>Hb estimation</i> <i>RBCs count</i> <i>PCV</i>	1. Urinary tract infections (D1)
Day (2)	Monday 24.06.2024	Leukemia (Case Study) WBCs count White cell differential count	• UTI (D2) 2. Upper & lower respiratory tract infections (D1)	Leukemia (Case Study) WBCs count White cell differential count	• UTI (D2) 2. Upper & lower respiratory tract infections (D1)
Day (3)	Tuesday 25.06.2024	Thrombocytopenia (case study) Plts count (hemocytometer) Plts count (thin blood film) PT&APTT	• UTI (D3) • U/L. RTI (D2) 3. Wound/ skin infections (D1)	Thrombocytopenia (case study) Plts count (hemocytometer) Plts count (thin blood film) PT&APTT	• UTI (D3) • U/L. RTI (D2) 3. Wound/ skin infections (D1)
Day (4)	Wednesday 26.06.2024	ABO blood grouping Rhesus blood grouping D ^u method Direct Coomb's test	• U/L. RTI (D3) • Wound/ skin infections (D2) 4. CSF & body effusions infections (D1)	ABO blood grouping Rhesus blood grouping D ^u method Direct Coomb's test	• U/L. RTI (D3) • Wound/ skin infections (D2) 4. CSF & body effusions infections (D1)



Day (5)	Thursday 27.06.2024	Automated hematology analyzer Histogram result interpretation Maintenance and calibration Weekly assessment	- Wound/ skin infections (D3) - CSF & body effusions infections (D2) 5. Blood culture/ Joint & bone infections (Theory practical) Weekly assessment	Automated hematology analyzer Histogram result interpretation Maintenance and calibration Weekly assessment	- Wound/ skin infections (D3) - CSF & body effusions infections (D2) 5. Blood culture/ Joint & bone infections (Theory practical) Weekly assessment
Week 2	Date	Lab 1 (09:00 am – 11: 00 am) (Clin. Chem) G1	Lab 1 (09:00 am – 11: 00 am) (Routine) G2	Lab 1 (11:30 am– 01:30 pm) (Clin. Chem) G2	Lab 2 (11:30 am– 01:30 pm) (Routine) G1
Day (1)	Sunday 30.06.2024	Diabetic profile	- CSF & body effusions infections (D3) 6. Gastrointestinal Tract infections (D1)	Diabetic profile	- CSF & body effusions infections (D3) 6. Gastrointestinal Tract infections (D1)
Day (2)	Monday 01.07.2024	Renal profile	- GITI (D2) 7. Sexually Transmitted Diseases ((Theory practical))	Renal profile	- GITI (D2) 7. Sexually Transmitted Diseases ((Theory practical))
Day (3)	Tuesday 02.07.2024	Liver profile	- GITI (D3) - Semen analysis	Liver profile	- GITI (D3) - Semen analysis
Day (4)	Wednesday 03.07.2024	Lipid profile	Urinalysis	Lipid profile	Urinalysis
Day (5)	Thursday 04.07.2024	Tumors and Cardiac markers.	- Stool analysis Weekly assessment	Tumors and Cardiac markers.	- Stool analysis Weekly assessment



		Automated chemistry analyzer Maintenance, calibration, and controls (LJ charts). Weekly assessment		Automated chemistry analyzer Maintenance, calibration, and controls (LJ charts). Weekly assessment	
Week 3	Date	Lab 1 (09:00 am – 11: 00 am) (Hematology slides) G1	Lab 1 (09:00 am – 11: 00 am) (Routine) G2	Lab 1 (11:30 am– 01:30 pm) (Hematology slides) G2	Lab 1 (11:30 am– 01:30 pm) (Routine) G1
Day (1)	Sunday 07.07.2024	Different types of anemia & leukemia	• Urinalysis	Different types of anemia & leukemia	• Urinalysis
Day (2)	Monday 08.07.2024	Automated chemistry analyzer Maintenance and calibration	• Stool analysis	Automated chemistry analyzer Maintenance and calibration	• Stool analysis
Day (3)	Tuesday 09.07.2024	Automated hematology analyzer Histogram Result Interpretation Maintenance and calibration	• Semen analysis	Automated hematology analyzer Histogram Result Interpretation Maintenance and calibration	• Semen analysis
Day (4)	Wednesday 10.07.2024	Molecular Biology	• Molecular Biology	Molecular Biology	• Molecular Biology
Day (5)	Thursday 11.07.2024	Molecular Biology Weekly assessment	• Molecular Biology Weekly assessment	Molecular Biology Weekly assessment	• Molecular Biology Weekly assessment

Crash Course content (Summer 2024)

Week 1:

Day 1: Introduction and Lab Safety

Introduction to the crash course and overview of the schedule

- General laboratory safety rules and regulations
- Personal protective equipment (PPE) and its proper usage
- Handling and disposal of biological and chemical waste
- Fire safety and emergency response procedures

Day 2-4: Haematology

- Blood sample collection and handling
- Complete blood count (CBC) using manual and automated analyzers
- Peripheral blood smear preparation and staining
- Manual differential blood cell counting
- Erythrocyte sedimentation rate (ESR) and reticulocyte count
- Hemoglobin electrophoresis for hemoglobinopathies
- Coagulation studies (PT, aPTT, fibrinogen)
- Sickle test slide method and Solubility test for sickle
- Bone marrow aspiration and biopsy (demonstration)

Day 5: Routine Practical (Urine Analysis)

- Introduction to urine analysis
- Physical examination of urine (color, clarity, specific gravity, pH)
- Chemical examination of urine using dipstick tests
- Microscopic examination of urine sediment
- Parasite detection in urine sample

Week 2:

Day 1: Routine Practical (Stool Analysis)

- Introduction to stool analysis
- Macroscopic examination of stool
- Microscopic examination of stool for ova and parasites
- Occult blood testing in stool samples

Day 2-4: Clinical Chemistry

- Introduction to clinical chemistry laboratory techniques
- Spectrophotometry and colorimetry principles
- Glucose, cholesterol, and triglyceride measurements
- Liver function tests (ALT, AST, ALP, bilirubin, total protein, albumin)
- Kidney function tests (creatinine, urea, electrolytes)
- Cardiac biomarkers (troponin, CK-MB)
- Thyroid function tests (TSH, free T4)
- Hormonal assays (cortisol, testosterone, estradiol)
- Drug monitoring (therapeutic drug monitoring, toxicology screening)
- Immunoassays (ELISA, chemiluminescence)

Day 5: Practical Assessments

Week 3:

Day 1-2: Bacteriology

- Introduction to bacteriology laboratory techniques
- Sample collection and processing for bacterial culture
- Media preparation and inoculation techniques
- Gram staining and microscopic examination of bacteria
- Biochemical tests for bacterial identification
- Antibiotic susceptibility testing

Day 3: Lab Management

- Introduction to laboratory management principles
- Quality control and quality assurance in the laboratory
- Documentation and record-keeping

- Inventory management and stock control
- Laboratory information management systems (LIMS)

Day 4: Practical Assessments

- Practical examinations in haematology, clinical chemistry, urine analysis, stool analysis, and bacteriology
- Feedback and discussion on practical performance

Day 5: Course Wrap-up

- Review of key concepts and techniques covered in the course
- Q&A session and course evaluation