

# MED YSP 2024 Module 4: Pharmacology and Toxicology

Name: \_\_\_\_\_

Monday, July 29, 2024	
Drugs and the Body	
Time	Activity
8:00 - 8:45	Check-in David Naylor lobby of Medical Sciences Building (aka Stone Lobby)
8:15 - 8:45	Rise & Shine Rama (SEG) & Josephine
8:45 - 9:00	Meet in Lecture room MSB 3154
9:00 - 9:15	Welcome and Land Acknowledgment <i>Dr. Leonardo (Lenny) Salmena</i> Associate Professor, Teaching Stream, Dept. of Pharmacology, UoIT
	Land Acknowledgment <i>Rama Upadhye</i>
	How to Maximize Your Experience <i>Dr. Azmiri Sulatana, Lab Manager</i>
9:15 - 10:10	Stay in lecture room Introduction to Pharmacology: A Pharmers Guide to Understanding Drugs <i>Dr. Leonardo Salmena</i>
10:10 - 10:15	Q&A
10:05 - 10:20	Inside lecture room MSB 3154 Lab #1: How to measure an in vivo NAT2 acetylator phenotype
	Part A: Caffeine intake inside lecture room. <i>Led by Artemisa, Javid, and Instructors.</i>
10:20 - 10:30	Meet Instructors & Transfer to lab rooms <i>Dr. Azmiri Sulatana, Lab Manager</i>
10:30 - 10:45	In your lab room Meet and Greet (Attendance, Ice breakers)
10:45 - 11:05	Lab Safety (Fire, Medical, General Lab Safety, + lab coats)
11:05 - 11:55	Lab #2: Pipetting and Pre-Priming
11:55 - 12:00	Lab cleanup + Checklist
12 - 1 PM Lunch	
12:55 - 1:00	Proceed to lecture room MSB 3154 Meet in MSB 3154
1 - 1:55	Drug Use - An Examination of Substance Use Disorder <i>Dr. Michelle Amot, Assistant Professor, Dep. of Pharmacology and Toxicology</i>
	Q&A
2 - 2:10	Transfer to lab rooms Lab #1: How to measure an in vivo NAT2 acetylator phenotype
2:10 - 4:00	Part B: Urine Collection Part C1: Extract Metabolites

Tuesday, July 30, 2024	
I Can NAT Believe It!	
Time	Activity
8:00 - 8:45	Attendance in MSB, David Naylor lobby of Medical Sciences Building (aka Stone Lobby)
8:15 - 8:45	Rise & Shine Calvin & Sarah
8:55 - 9:00	Proceed to MSB lab rooms
9:00 - 11:30	Lab #4: Genotyping of SNPs in the NAT2 gene Part A-B: DNA isolation, and Part C: Setup PCR reaction
11:30 - 11:55	Lab #3: Recombinant Human NAT1 and Measurement of its Enzyme Activity Part B: Inoculate new culture
11:55 - 12:00	Lab cleanup + Checklist
12 - 1 PM Lunch	
12:55 - 1:00	Proceed to lecture room MSB 3154 Meet in MSB 3154
1 - 2 PM	Immunopharmacology: how to use your own cells as drugs <i>Dr. Landon Edgar, Assistant Professor, Dep. of Pharmacology and Toxicology</i>
	Q&A
1:55 - 2:00	Transfer to lab rooms
2 - 2:10	Transfer to lab rooms
2:10 - 2:40	Lab #3: Recombinant Human NAT1 and Measurement of its Enzyme Activity Part C: Induce protein expression
2:40 - 4:50	Lab #4: Genotyping of SNPs in the NAT2 gene Part D: Setup restriction enzyme digest Part E: Run Agarose Gel Part F: Determine NAT2 Genotype
4:50 - 5:00	Lab cleanup + Checklist
Approx. 6 PM	Done by DTL technician
Lab #3: Recombinant Human NAT1 and Measurement of its Enzyme Activity Part D: Extract Protein	

Wednesday, July 31, 2024	
Lab Techniques in PharmTox	
Time	Activity
8:00 - 8:45	Attendance in Lecture room
8:15 - 8:45	Rise & Shine Sarah & Raunak
	Lunch will start late today
9:00 - 10:00	Meet in MSB 3154 Small Molecules Generate Big Signals: Introduction To VEGF Signalling In Cancer <i>Dr. Leonardo Salmena, Department of Pharmacology and Toxicology, UoIT</i>
10:00 - 10:05	Transfer to lab rooms
10:05 - 10:10	Introduce ELISA competition & Prizes (Instructors)
10:10 - 10:30	Lab #5: ELISA Part A: Washing plate technique
10:30 - 10:40	Buffer
10:40 AM	Part B: Start at 10:40 AM sharp!
10:40 - 12:25	Lab #5: ELISA Part B: Setup Experiment
12:25 - 12:30	Lab cleanup + Checklist
12:30 - 1:30 Lunch	
	Proceed to lab rooms
1:30 - 4:30	Lab #5: ELISA Part C: Continue
	Lab #5: ELISA Part D: Excel for Scientists
4:30 - 4:35	Lab cleanup + Checklist
4:35 - 4:40	Move to lecture room MSB 3154
4:40 - 5:00	Game Show Trial run Led by Rama (Student Experience Guru)

Thursday, August 1, 2024	
Toxicology	
Time	Activity
8:00 - 8:45	Attendance in MSB, David Naylor lobby of Medical Sciences Building (aka Stone Lobby)
8:15 - 8:45	Rise & Shine Ivy & Tam
8:55 - 9:00	Proceed to MSB lab rooms
9:00 - 12:00	Lab #7: Cell Cytotoxicity Part A1, DNA extraction
During Incubations	Lab #6: Microscopy Workshop
During Incubations	Lab #7: Cell Cytotoxicity How to use a hemocytometer
11:55 - 12:00	Lab cleanup + Checklist
Med YSP Photos medysp.pixieset.com Password: Medysp2024 Deadline to download photos Fri. Aug. 16, 2024	
12 - 1 PM Lunch	
12:55 - 1:00	Proceed to lecture room MSB 3154 Meet in MSB 3154
1 - 2 PM	Introduction to Toxicology & Vaping <i>Dr. Meghan Chenoweth, Assistant Professor, Dept. of Pharmacology and Toxicology + Department of Psychiatry, UoIT</i>
	Q&A
1:55 - 2:00	Transfer to lab rooms
2:00 - 2:15	Lab #7: Cell Cytotoxicity
2:10 - 3:10	Part B: Trypan Blue exclusion
3:10 - 4:25	Lab #3: Recombinant Human NAT1 and Measurement of its Enzyme Activity Part E: Enzyme assay, and Part F: Analyse results
4:25 - 4:55	Lab #4: Genotyping of SNPs in the NAT2 gene Part G: Compare NAT2 Genotype with caffeine metabolism NAT2 Phenotype
	Lab #1: How to measure an in vivo NAT2 acetylator phenotype Part D: Ratio of urinary metabolites
4:55 - 5:00	Lab cleanup + Checklist

Friday, August 2, 2024	
Careers & Game Show	
Time	Activity
8:00 - 8:45	Attendance in MSB, David Naylor lobby of Medical Sciences Building (aka Stone Lobby)
8:15 - 8:40	Rise & Shine Sonya & Landon
	Early Start
8:40 - 8:45	Proceed to MSB lab rooms
8:45 - 11:00	Lab #7: Cell Cytotoxicity Part A2: Run gel and analyze
10:55 - 11:00	Lab cleanup + Checklist
11:00 - 11:15	Rotation Determination and Move to Respective Rooms
Attend one of the following sessions as determined by you and your Instructor	
11:15 - 12:00	University Admissions, MSB 3154 <i>Floyd Noronha</i> or
11:15 - 12:00	Panel Discussions, MSB 2172 Led by Instructors or
11:15 - 12:00	Anatomy Museum, MSB 2278 NO PHONE RULE Led by Instructors
12 - 1 PM Lunch	
1:00 - 1:10	Meet in your lab room
1:10 - 1:40	Surveys (Lab rooms) <a href="https://bit.ly/YSYP24-survey-pharmtox">https://bit.ly/YSYP24-survey-pharmtox</a>
1:40 - 1:50	Wrap up (pick up belongings and certificates)
1:50 - 1:55	Transfer to lecture room MSB 3154
1:55 - 3:20	Career Perspectives Panel
1:55 - 2:20	Career speaker #1 <i>Martino Gabra</i>
2:20 - 2:25	Switch over
2:25 - 2:50	Career speaker #2 Erika Beroncal
2:50 - 2:55	Switch over
2:55 - 3:20	Career speaker #3 <i>Justin Grant, PhD</i>
3:20 - 3:30	Buffer and Break
3:20 - 4:20	Land Acknowledgment <i>Ivy Pham</i> Extra Super Galactic Brain Buster Trivia Game Show Rama (Student Experience Guru)
	Closing Remarks
4:20 - 4:25	<i>Dr. Leonardo Salmena</i> <i>Azmiri Sulatana</i>
4:25 - 5:00	Reception & Refreshments MSB David Naylor Lobby