



Institute for Research in Molecular Medicine  
**INFORMM**

**MSc Molecular Medicine**  
Mixed mode

Time Table  
Semester 1, 2022/23  
17/10/2022 – 26/3/2023

## Course Coordinators & Lecturers

Code	Course	Coordinator	Ext.	E-mail
<b>TFM 501 (T)</b>	Molecular Basis of Diseases (Core)	Assoc. Prof. Dr. Oon Chern Ein	4879	chern.oon@usm.my
<b>TFM 522 (T)</b>	Diagnostic Technologies & Biological Markers Discovery (Core)	Dr. Nurulhasanah Othman	4877	nurulhasanah@usm.my
<b>TFM 503 (T)</b>	Vaccines & Novel Therapeutics (Core)	Dr. Tye Gee Jun	4878	geejun@usm.my
<b>TFM 524 (T)</b>	Bioinformatics (Core)	Dr. Eugene Ong Boon Beng	4871	eugene@usm.my

Initials	Lecturer	Email
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<b>TSC</b>	Tan Suat Cheng (PPSains Kesihatan)	tansc@usm.my
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### Modes of teaching/learning

**F2F = Face-to-Face (physical)**

**Blended learning = combination of F2F and online learning**

**Online = Webex or other online platforms**

**PBL = Problem-based learning**

**\*Part time students must enrol for TFM501 and TFM503 in Semester 1**

## Orientation Week

Date	9-10am	10-11am	11am-12pm	12-1pm		2-3pm	3-4pm	4-5pm	
Mon 10/10/22									
Tues 11/10/22									
Wed 12/10/22	<p style="text-align: center;"><b>Welcome to INFORMM</b></p> <ol style="list-style-type: none"> <li>1. Welcome address, Overview of INFORMM : Director INFORMM</li> <li>2. Getting to know you : Lecturers, students</li> <li>3. Photo session, Tea break</li> <li>4. Briefing on MSc mixed mode: Programme chair</li> <li>5. Meet your seniors</li> </ol>			<p style="text-align: center;"><b>Tour of INFORMM</b></p> <p style="text-align: center;"><i>En Muhammad Noor Fais</i></p>		<p style="text-align: center;"><b>Back to Basics in Molecular Biology Session I</b></p> <p style="text-align: center;">Central Dogma of Biology : Process from DNA to proteins VB (F2F)</p>			
Thurs 13/10/22	<p style="text-align: center;"><b>Session II</b></p> <p style="text-align: center;">Practical Chemistry: Calculations used in lab practical OMT (F2F)</p>		<p style="text-align: center;"><b>Session III</b></p> <p style="text-align: center;">Recombinant DNA Technology : Cloning DK (F2F)</p>			<p style="text-align: center;"><b>Session IV</b></p> <p style="text-align: center;">Cell Biology OCE (F2F)</p>			
Fri 14/10/22	<p style="text-align: center;"><b>Guidelines for log book keeping &amp; lab report writing</b></p> <p style="text-align: center;">OMT (F2F)</p>		<p style="text-align: center;"><b>Briefing on laboratory safety</b></p> <p style="text-align: center;"><i>Science officer (F2F)</i></p>						

## Week 1

Date	9-10am	10-11am	11am-12pm	12-1pm		6-7pm	7-8pm	8-9pm
Mon 17/10/22						<b>TFM 501</b> <b>Briefing on TFM501</b> <i>OCE (F2F)</i> 6.00pm -6.30pm	<b>TFM501</b> <b>1: Basic microbiology &amp; molecular mechanisms of infectious diseases</b> <i>Lecture, Tutorial</i> <i>KMFM (online)</i>	
Tues 18/10/22		<b>TFM524</b> <b>1: Introduction to Bioinformatics</b> <i>Lecture, Practical</i> <i>EOBB (F2F)</i>				<b>TFM501</b> <b>1: Basic microbiology &amp; molecular mechanisms of infectious diseases</b> <i>Cont'd, Tutorial &amp; Discussion</i> <i>KMFM (online)</i>		
Wed 19/10/22		<b>TFM524</b> <b>2: Accessing databases</b> <i>Lecture, Tutorial, Practical</i> <i>EOBB (F2F)</i>				<b>TFM501</b> <b>2: Molecular mechanisms of infectious diseases</b> <i>Tutorial, Discussion</i> <i>KMFM (online)</i>		
Thurs 20/10/22	<b>INFORMM</b> <b>Research</b> <b>Presentation</b>		<b>TFM524</b> <b>2: Accessing databases</b> <i>Lecture, Tutorial, Practical</i> <i>EOBB (Blended)</i>					
Fri 21/10/22								

## Week 2

Date	9-10am	10-11am	11am-12pm	12-1pm		6-7pm	7-8pm	8-9pm
Mon 24/10/22	<i>Deepavali</i>							
Tues 25/10/22								
Wed 26/10/22		<b>TFM524</b> <b>3: Using the right bioinformatics tools</b> <i>Lecture, Tutorial</i> <i>NHO (F2F)</i>				<b>TFM501</b> <b>2: Molecular mechanisms of infectious diseases</b> <i>PBL</i> <i>KMFM (online)</i>		
Thurs 27/10/22	<b>INFORMM</b> <b>Research</b> <b>Presentation</b>	<b>TFM524</b> <b>3: Using the right bioinformatics tools</b> <i>Practical</i> <i>NHO (Blended)</i>				<b>TFM 501</b> <b>3: Research methodologies in infectious diseases</b> <i>Tutorial, Case Study, Discussion</i> <i>AR (F2F)</i>		
Fri 28/10/22								

## Week 3

Date	9-10am	10-11am	11am-12pm	12-1pm		6-7pm	7-8pm	8-9pm
Mon 31/10/22			<b>Library session - Literature Search</b> <i>Webex online</i> <i>(11am - 1 pm)</i>			<b>TFM 501</b> <b>2: Molecular mechanisms of infectious diseases</b> <i>Student Seminar</i> <i>KMFM (online)</i>		
Tues 1/11/22		<b>TFM524</b> <b>3: Using the right bioinformatics tools</b> <i>Practical</i> <i>NHO (Blended)</i>				<b>TFM 501</b> <b>3: Research methodologies in infectious diseases</b> <i>Cont'd</i> <i>AR (F2F)</i>		
Wed 2/11/22		<b>TFM524</b> <b>4: Bioinformatics Analysis of Genomes</b> <i>Lecture, Tutorial</i> <i>NYY (online)</i>				<b>TFM 501</b> <b>Gene Cloning</b> <i>Lab Practical</i> <i>KMF/ AR/EOBB (F2F)</i>		
Thurs 3/11/22	<b>INFORMM</b> <b>Research</b> <b>Presentation</b>	<b>TFM524</b> <b>4: Bioinformatics Analysis of Genomes</b> <i>Lecture, Tutorial</i> <i>NYY (online)</i>						
Fri 4/11/22								

## Week 4

Date	9-10am	10-11am	11am-12pm	12-1pm		6-7pm	7-8pm	8-9pm
Mon 7/11/22			<i>Library session - Mendeley Webex online (11am - 1 pm)</i>			<b>TFM 501</b> <b>4: Cancer Biology</b> Tumour, cancer, grading, staging <i>PBL</i> <i>GK (F2F)</i>		
Tues 8/11/22		<b>TFM524</b> <b>5: Structural bioinformatics I</b> <i>Lecture, Tutorial</i> <i>LTS (F2F)</i>				<b>TFM501</b> <b>Protein expression &amp; purification</b> <i>Lab Practical</i> <i>KMFM/AR (F2F)</i>		
Wed 9/11/22		<b>TFM524</b> <b>5: Structural bioinformatics I</b> <i>Lecture, Practical</i> <i>CYS (F2F)</i>				<b>TFM 501</b> <b>5: The cancer genome- Cancer genetics &amp; epigenetics</b> <i>Tutorial</i> <i>NFM (online)</i>		
Thurs 10/11/22	<b>INFORMM Research Presentation</b>	<b>TFM524</b> <b>6: Structural bioinformatics II</b> <i>Practical</i> <i>CYS, ANS, SMS (F2F)</i>				<b>TFM 501</b> <b>6: Tumour growth &amp; metastasis</b> <b>Cell growth &amp; cell death</b> <i>Discussion</i> <i>OMT (online)</i>		
Fri 11/11/22								



## Week 5

Date	9-10am	10-11am	11am-12pm	12-1pm		6-7pm	7-8pm	8-9pm
Mon 14/11/22							<b>TFM 501</b> <b>6: Cancer stem cells</b> <i>Tutorial, Discussion</i> <i>KBY (F2F)</i>	
Tues 15/11/22							<b>TFM 501</b> <b>6: Role of tumour microenvironment in tumour progression</b> <i>NFM (online)</i>	
Wed 16/11/22	<b>TFM522</b> <b>Introduction to TFM502</b> <i>NHO</i> <i>9.00-9.30am</i> <i>(online)</i>	<b>TFM522</b> <b>2: Biological markers discovery in genomics</b> <i>Lecture</i> <i>VB (F2F)</i>					<b>TFM501</b> <b>Cell culture</b> <i>Lab Practical</i> <i>OMT (F2F)</i>	
Thurs 17/11/22	<b>INFORMM</b> <b>Research Presentation</b>	<b>TFM522</b> <b>2: Biological markers discovery in genomics</b> <i>Tutorial</i> <i>VB (F2F)</i>					<b>TFM501</b> <b>7: The role of virus &amp; bacteria in the pathogenesis of cancer</b> <i>Tutorial &amp; Discussion</i> <i>VB (F2F)</i>	
Fri 18/11/22								

## Week 6

Date	9-10am	10-11am	11am-12pm	12-1pm		6-7pm	7-8pm	8-9pm
Mon 21/11/22							<b>TFM501</b> <b>ELISA</b> <i>Lab Practical</i> <i>VB (F2F)</i>	
Tues 22/11/22		<b>TFM522</b> <b>2: Biological markers discovery in genomics</b> <i>Lab Practical</i> <i>VB (F2F)</i>				<b>TFM501</b> <b>8: Research methodologies in molecular medicine</b> <i>Tutorial</i> <i>OCE (F2F)</i>		
Wed 23/11/22		<b>TFM522</b> <b>3: Biological markers discovery in transcriptomics</b> <i>Lecture</i> <i>DK (F2F)</i>				<b>TFM501</b> <b>8: Research methodologies in molecular medicine</b> <i>Student Seminar</i> <i>(Science Quest Workshop)</i> <i>OCE (Facilitator) &amp; All lecturers</i> <i>(F2F)</i>		
Thurs 24/11/22	<b>INFORMM</b> <b>Research Presentation</b>	<b>TFM522</b> <b>3: Biological markers discovery in transcriptomics</b> <i>Tutorial</i> <i>DK (F2F)</i>				<b>TFM501</b> <b>8: Research methodologies in molecular medicine</b> <i>Science Quest Workshop</i> <i>Continued</i> <i>(F2F)</i>		
Fri 25/11/22								

## Week 7

Date	9-10am	10-11am	11am-12pm	12-1pm		6-7pm	7-8pm	8-9pm
Mon 28/11/22						<b>TFM503</b> <b>Briefing on TFM503</b> <b>1: Introduction to Immunology</b> <i>Lecture, Tutorial</i> TGJ (F2F)		
Tues 29/11/22		<b>TFM522</b> <b>3: Biological markers discovery in transcriptomics</b> <i>PBL</i> DK (F2F)				<b>TFM503</b> <b>2: Innate Immunity</b> <i>Lecture</i> LCH (F2F)		
Wed 30/11/22		<b>TFM522</b> <b>4: Biological markers discovery in proteomics</b> <i>Lecture</i> NHO (F2F)				<b>TFM503</b> <b>LAB SESSION 1</b> TGJ (F2F)		
Thurs 1/12/22	<i>INFORMM Research Presentation</i>		<b>TFM522</b> <b>4: Biological markers discovery in proteomics</b> <i>Tutorial</i> NHO (F2F)					
Fri 2/12/22								

## Week 8 – MID SEMESTER BREAK

**5/12/22 – 11/12/22**

## Week 9

Date	9-10am	10-11am	11am-12pm	12-1pm		6-7pm	7-8pm	8-9pm
Mon 12/12/22						<b>TFM503</b> <b>3: Acquired Immunity – T and B cell immunity</b> <i>Lecture</i> <i>LCH (F2F)</i>		
Tues 13/12/22		<b>TFM522</b> <b>4: Biological markers discovery in proteomics</b> <i>Lab Practical</i> <i>NHO (F2F)</i>				<b>TFM503</b> <b>4: Immunology as a self- defense mechanism towards infectious &amp; non-infectious diseases</b> <i>Lecture, Tutorial</i> <i>TGJ (F2F)</i>		
Wed 14/12/22		<b>TFM522</b> <b>5: DNA-based diagnostics</b> <i>Lecture</i> <i>AI (online)</i>				<b>TFM503</b> <b>5: Autoimmunity – “Graft versus Host Disease”</b> <i>Lecture</i> <i>TGJ (F2F)</i>		
Thurs 15/12/22	<b>INFORMM</b> <b>Research Presentation</b>	<b>TFM522</b> <b>5: DNA-based diagnostics</b> <i>Lab Practical</i> <i>AI (blended learning)</i>				<b>TFM503</b> <b>LAB SESSION 2</b> <i>TGJ (F2F)</i>		
Fri 16/12/22								

## Week 10

Date	9-10am	10-11am	11am-12pm	12-1pm		6-7pm	7-8pm	8-9pm
Mon 19/12/22						<b>TFM503</b> <b>6: Introduction to Vaccines</b> <i>Lecture</i> <i>LCY (F2F)</i>		
Tues 20/12/22		<b>TFM522</b> <b>5: DNA-based diagnostics</b> <i>Tutorial</i> <i>AI (online)</i>				<b>TFM503</b> <b>LAB SESSION 3</b> <i>TGJ (F2F)</i>		
Wed 21/12/22		<b>TFM522</b> <b>6: RNA-based diagnostics</b> <i>Lecture, Tutorial, Discussion</i> <i>EOBB (F2F)</i>				<b>TFM503</b> <b>7: Vaccines &amp; Immunotherapy</b> <i>Lecture, Discussion</i> <i>LCY (F2F)</i>		
Thurs 22/12/22	<b>INFORMM</b> <b>Research Presentation</b>	<b>TFM522</b> <b>6: RNA-based diagnostics</b> <i>Lecture, Tutorial, Discussion</i> <i>NFM (online)</i>				<b>TFM503</b> <b>8: Gene Therapy – Diseases &amp; Current issues</b> <i>Lecture, Discussion</i> <i>TGJ (F2F)</i>		
Fri 23/12/22								

## Week 11

Date	9-10am	10-11am	11am-12pm	12-1pm		6-7pm	7-8pm	8-9pm
Mon 26/12/22	<i>Christmas Day</i>							
Tues 27/12/22		<b>TFM522</b> <b>7: Proteins-based diagnostics</b> <i>Lecture</i> <i>AR (F2F)</i>				<b>TFM503</b> <b>8: Gene Therapy</b> <i>Cont'd</i> <i>TGJ (F2F)</i>		
Wed 28/12/22		<b>TFM522</b> <b>7: Proteins-based diagnostics</b> <i>Tutorial</i> <i>AR (F2F)</i>				<b>TFM503</b> <b>9: Cell therapy</b> <i>Lecture, PBL</i> <i>TSC (online)</i>		
Thurs 29/12/22	<b>INFORMM</b> <b>Research</b> <b>Presentation</b>	<b>TFM522</b> <b>7: Proteins-based diagnostics</b> <i>Lab Practical</i> <i>NSA (F2F)</i>				<b>TFM503</b> <b>9: Cell therapy</b> <i>Cont'd</i> <i>TSC (online)</i>		
Fri 30/12/22								

## Week 12

Date	9-10am	10-11am	11am-12pm	12-1pm		6-7pm	7-8pm	8-9pm
Mon 2/1/23	<i>New Year 's Day</i>							
Tues 3/1/23								
Wed 4/1/23						<b>TFM503</b> <b>10: Novel Biologics-Custom peptides</b> <i>Tutorial</i> <i>LCH(F2F)</i>	<b>TFM503</b> <b>10: Novel Biologics- Small molecules</b> <i>Lecture</i> <i>KMFM (online)</i>	
Thurs 5/1/23	<b>INFORMM Research Presentation</b>						<b>TFM503</b> <b>11: Pre-clinical trial &amp; current methods in novel therapeutics</b> <i>Lecture, Tutorial</i> <i>TGJ(F2F)</i>	
Fri 6/1/23								

## Week 13

Date	9-10am	10-11am	11am-12pm	12-1pm		6-7pm	7-8pm	8-9pm
Mon 9/1/23						<b>TFM503</b> <b>11: Continued</b> <i>Discussion</i> <i>TGJ (F2F)</i>		
Tues 10/1/23								
Wed 11/1/23							<b>TFM503</b> <b>LAB SESSION 4</b> <i>TGJ(F2F)</i>	
Thurs 12/1/23	<b>INFORMM</b> <i>Research</i> <b>Presentation</b>	<b>TFM522</b> <b>9: Project on</b> <b>biological</b> <b>markers</b> <b>discovery and</b> <b>diagnostics</b> Lecture <i>NHO (online)</i>				<b>TFM503</b> <b>12: Clinical Trials – Phase I/II/III</b> <i>Lecture, PBL</i> <i>TGJ (F2F)</i>		
Fri 13/1/23								



## Week 14

Date	9-10am	10-11am	11am-12pm	12-1pm		6-7pm	7-8pm	8-9pm
Mon 16/1/23						<b>TFM503</b> <b>12: Clinical Trials,</b> Cont'd <i>Tutorial</i> <i>TGJ (F2F)</i>		
Tues 17/1/23		<b>TFM522</b> <b>9: Workshop Continued</b> PBL <i>NHO, VB, EOBB, NSA, DK, NFM</i> <i>(F2F)</i>				<b>TFM503</b> <b>13: Production of vaccines, novel therapeutics &amp; laws on use of these therapies</b> <i>Lecture, PBL</i> <i>AR (F2F)</i>		
Wed 18/1/23		<b>TFM522</b> <b>9: Workshop Continued</b> PBL <i>NHO, VB, EOBB, NSA, DK, NFM (F2F)</i>				<b>TFM503</b> <b>13: Production of vaccines, novel therapeutics &amp; laws on use of these therapies, Cont'd</b> <i>AR (F2F)</i>		
Thurs 19/1/23	<b>INFORMM</b> <b>Research</b> <b>Presentation</b>	<b>TFM522</b> <b>9: Workshop Continued</b> <i>Student presentation</i> <i>NHO, VB, EOBB, NSA, DK, NFM (F2F)</i>						
Fri 20/1/23								

## Week 15

Date	9-10am	10-11am	11am-12pm	12-1pm		6-7pm	7-8pm	8-9pm
Mon 23/1/23	<i>Chinese New Year</i>							
Tues 24/1/23	<i>Chinese New Year</i>							
Wed 25/1/23								
Thurs 26/1/23								
Fri 27/1/23								

**Students can organise revision sessions with lecturers in this week.**

**Week 16 – Revision Week**

**30/1/23 – 05/02/23**

**Week 17-19 – Examination (3 weeks)**

**06/02/23 – 26/02/23**

**Week 20-23 – End of Semester Break (4 weeks)**

**27/2/23 – 26/3/23**

**Semester 2**

**Begins 27/3/23**