Introduction to Infectious Disease Modelling and its Applications (online course)

All listed times are UK time (UTC+1).

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Activity	Monday, 27th June	Tuesday, 28th June	Wednesday, 29th June	Thursday, 30th June	Friday, 1st July
		9.00-9.30 Optional review/Q&A on recorded S2 lecture (difference equations)	9.00-9.30 Optional review/Q&A on recorded S3 lecture (differential equations)	9.00-9.30 Optional review/Q&A on recorded S4 lecture (natural dynamics)	9.00-9.30 Optional review/Q&A on S6. Review of block1
Drop-in clinic 10.00-11.00		10.00-11.00 Tutor drop-in clinic	10.00-11.00 Tutor drop-in clinic	10.00-11.00 Tutor drop-in clinic	10.00-11.00 Tutor drop-in clinic
	14.00-14.30 Welcome and introduction to the course	14.00-14.45 Review of Practical S2 (Difference equations)	14.00-14.45 Review of Practical S3 (Differential equations)	14.00-14.45 Review of practical S4 (Natural dynamics)	14.00-15.00: Review of block 1 MCQ
	14.30-15.30 Live lecture with questions: S1. Introduction the epidemiology of infections	14.45-15.30: Introduction to Berkeley Madonna	14.45-16.00: Guest lecture	14.45-16.00: S5. Paper discussion (TB, Vet epi or Covid)	
	15.30-16.00 Introduction to Moodle	15.30-16.00: Networking in break-out groups			15.00-15.30 Networking in break-out groups
Self-study material from 16.00 until 14.00 on the following day	S2. Basic methods for setting up models: difference equations	S3. Basic methods for setting up models: differential equations	S4. Natural dynamics of infections	S6. Review of block 1 (optional)	S7. Analysing seroprevalence data
Drop-in clinic 16.00-17.00	16.00-17.00 Tutor drop-in clinic	16.00-17.00 Tutor drop-in clinic	16.00-17.00 Tutor drop-in clinic	16.00-17.00 Tutor drop-in clinic	16.00-17.00 Tutor drop-in clinic
	17.00-17.30 Optional review/Q&A on recorded S2 lecture (difference equations)	17.00-17.30 Optional review/Q&A on recorded S3 lecture (differential equations)	17.00-17.30 Optional review/Q&A on recorded S4 lecture (natural dynamics)	17.00-17.30 Optional review/Q&A on S6. Review of block1	17.00-17.30 Optional review/Q&A on recorded S7 lecture (seroprevalence data)

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Activity	Monday 4th July	Tuesday 5th July	Wednesday 6th July	Thursday 7th July	Friday 8th July
	9.00-9.30 Optional review/Q&A on recorded S7 lecture (seroprevalence data)	9.00-9.30 Optional review/Q&A on practical S8 (rubella vaccination)	9.00-9.30 Optional review/Q&A on recorded S9 lecture (non-random mixing)	9.00-9.30 Optional review/Q&A of recorded S10 lecture (calculating R_0)	9.00-9.30 Optional review/Q&A of recorded lecture S12 (Review of block2)
Drop-in clinic 10.00-11.00	10.00-11.00 Tutor drop-in clinic	10.00-11.00 Tutor drop-in clinic	10.00-11.00 Tutor drop-in clinic	10.00-11.00 Tutor drop-in clinic	10.00-11.00 Tutor drop-in clinic
	14.00-14.45 Review of practical S7 (Seroprevalence data)	14.00-14.45 Review of practical S8 (Rubella vaccination)	14.00-14.45 Review of practical S9 (Non-random-mixing)	14.00-14.45 Review of practical S10 (R_0) C	14.00-14.45 Review of block 2 MCQ
	14.45-16.00 Guest lecture	15.00-15.30 Networking in break-out groups	14.45-16.00 Guest lecture	15.00-15.30 Networking in break-out groups	14.45-16.00: Guest lecture
Drop-in clinic 16.00-17.00	16.00-17.00 Tutor drop-in clinic	16.00-17.00 Tutor drop-in clinic	16.00-17.00 Tutor drop-in clinic	16.00-17.00 Tutor drop-in clinic	16.00-17.00 Tutor drop-in clinic
Self-study material from 16.00 until 14.00 on the following day	S8. Contrasting the effects of rubella vaccination between high and low transmission settings	S9. Simulating the effects of non-random mixing on transmission and control	S10. Estimating basic reproduction numbers for non-randomly mixing populations S11. Fitting models to data I (technical lecture)	S12. Review of block 2 (optional)	S13. Stochastic modelling I
	17.00-17.30 Optional review/Q&A on practical S8 (rubella vaccination)	17.00-17.30 Optional review/Q&A on recorded S9 lecture (non-random mixing)	17.00-17.30 Optional review/Q&A of recorded S10 lecture (calculating R_0)	17.00-17.30 Optional review/Q&A of recorded lecture S12 (Review of block2)	17.00-17.30 Optional review/Q&A of lecture S13 Stochastic modelling

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Activity	Monday 11th July	Tuesday 12th July	Wednesday 13th July	Thursday 14th July	Friday 15th July
	9.00-9.30 Optional review/Q&A of recorded lecture S13 (Stochastic modelling I)	9.00-9.30 Optional review/Q&A on Stochastic modelling	17.00-17.30 Optional review/Q&A of lectures S11, S15 & S16 (health economics and fitting models I & II)	9.00-9.30 Optional review/Q&A of recorded lecture S17 (network modelling)	9.00-9.30 Optional review/Q&A of recorded lectures. Select 1 stream: S19 STI & HIV modelling **OR** S20 TB modelling S21 Malaria modelling
Drop-in clinic 10.00-11.00	10.00-11.00 Tutor drop-in clinic	10.00-11.00 Tutor drop-in clinic	10.00-11.00 Tutor drop-in clinic	10.00-11.00 Tutor drop-in clinic	10.00-11.00 Tutor drop-in clinic
	14.00-14.45 Review of practical S13 (Stochastic modelling I)	14.00-14.45 Review of practical S14 (Stochastic modelling II)	14.00-15.00 Review of practical S16 (health economics)	14.00-15.00 Review of practical S17 (networks)	14.00-14.40 Select one review stream 1. S18 STI & HIV modelling **OR** 2. S19 TB modelling **OR** 3. S20 Malaria modelling
	14.45-16.00 Study period [work on material for review at 14.00 on the following day and chosen streamed material S19, S20 or S21 for Friday)	14.45-15.15 Networking in breakout groups	15.00-16.00 Study period [work on material for review at 14.00 on the following day and chosen streamed material S19, S20 or S21 for Friday)	14.45-16.00 Live lecture with questions S18: Real-time modelling	14.45-15.30 Course farewell and end of course
		Study period [work on material for review at 14.00 on the following day and streamed material S19, S20 & S21 for Friday)			15.30-16.00 Final networking in breakout groups
Drop-in clinic 16.00-17.00	16.00-17.00 Tutor drop-in clinic	16.00-17.00 Tutor drop-in clinic	16.00-17.00 Tutor drop-in clinic	16.00-17.00 Tutor drop-in clinic	
Self-study material from 16.00 until 14.00 on the following day	S14. Stochastic modelling II (practical only) S15: Fitting models to data II - numerical optimisation and sensitivity analysis (technical lecture)	S16: Economic evaluation of infectious disease interventions (lecture and practical)	S17: Network modelling (recorded lecture and practical)	Select 1 stream: S18 STI & HIV modelling **OR** S19 TB modelling **OR** S20 Malaria modelling	
	17.00-17.30 Optional review/Q&A on stochastic modelling	17.00-17.30 Optional review/Q&A of lectures S11, S15 & S16 (health economics and fitting models I & II)	17.00-17.30 Optional review/Q&A of lecture 17 (network modelling)	17.00-17.30 Optional review/Q&A of recorded lectures. Select 1 stream: S19 STI & HIV modelling **OR** S20 TB modelling OR S21 Malaria modelling	

Tutor support and virtual rooms

Tutor support:

1. During 9.30-14.00 and 16.00-17.00 UK time (UTC+1) each day, students can post queries onto the message board and a tutor will reply within the hour.

2. Students can drop into a virtual one to one meeting ("drop-in clinic") with a tutor during 10.00-11.00 and 16.00-17.00 UK time (UTC+1) to get answers on issues relating to the self-study material. Queries will be dealt with in order of arrival.

Peer-support rooms:

Virtual rooms will be available 24 hours a day to allow students to work through the self-study material in the company of other students if they so wish.

Social:

1. Several networking sessions have been scheduled during the course, to allow students to talk to other students and tutors in break-out rooms.

2. Virtual tea/coffee rooms will be available 24 hours a day to allow students to talk to others outside of those times. Students should post messages onto the student message board to arrange times to meet with others.

Optional review/Q &A sessions:

The morning and afternoon session are repeats of each other, and students can attend whichever works best with their time zone.