PROGRAMME

Saturday 20th September: Day 1

12:00	Arrival/Registration	
16:45 - 17:00	Welcoming Addresses M. Berovic, I. Radojičić Redovniković and H.J. Noorman	

Course Introduction: Some Basic Concepts

17:00 - 17:45	Lecture 1: Basic Microbiological Concepts	V. Zechner-Krpan
17:45 - 18:30	Lecture 2: Basic Engineering Balances	J. Büchs
18:30 - 19:15	Lecture 3: Introduction to Modern Industrial Bioprocesses	M. Jenzsch

19:45 Dinner and Welcome Party

Sunday 21st September: Day 2

Stoichiometry, Rates and Reaction Kinetics

09:00 - 09:45	Lecture 4: Stoichiometry	H.J. Noorman
09:45 - 10:30	Lecture 5: Kinetics	H.J. Noorman

10:30 - 11:00 Coffee break

Physical Parameters of Bioprocessing and Bioreactors

11:00 - 11:45	Lecture 6: Sterilization in Bioprocesse	M. Berovič
11:45 - 12:30	Lecture 7: Mixing, Mass and Heat Transfer in Bioreactors	S.M. Stocks
12:30 - 13:15	Lecture 8: Process Intensification	G. Jovanović

13:30 - 14:30 Lunch

14:30 - 15:15	Lecture 9: Bioprocess Engineering in Microtiter Plates and Shake Flasks	J. Büchs
15:15 - 16:00	Lecture 10: Bioprocessing in Conventional Bioreactors	S.M. Stocks

Bioreactors and Bioprocessing I

16:00 - 18:45	Design Study 1 - Stoichiometry / Kinetics	H.J. Noorman / S.M. Stocks J.Büchs / C. Haringa

19:00 – 20:00 Dinner

20:30 Get Together Party with Tasting of Participants *'National Delights'*
M. Jenzsch, I. Radojičić Redovniković

Monday 22nd September: Day 3

Bioreactors and Bioprocessing II

09:00 - 09:45	Lecture 11: Industrial Bioreactors and Detailed Modelling	C. Haringa
09:45 - 10:30	Lecture 12: Scale-Up and Scale-Down	S.M. Stocks
10:30 - 11:00	**Coffee break**	
11:00 - 11:45	Lecture 13: Microscale-Based Design of Modular Industrial-Scale Reactors	G. Jovanović
11:45 - 12:30	Lecture 14: Solid State Bioprocessing	D. Mitchell
12:30 - 13:45	**Lunch**	

Bioreactors and Bioprocessing III

13:45 - 14:30	Lecture 15: Redox potential	M. Berovič
14:30 - 15:15	Lecture 16: Fed Batch and Continuous Culture	J. Büchs
15:15 - 16:00	**Coffee break**	
16:00 - 18:00	Design Study 2: Transport phenomena	J. Büchs / H. J. Noorman S.M. Stocks / C. Haringa
19:00 - 20:00	**Dinner**	
20:30	**Chris Hewitt`s Speakers Corner**	H.J. Noorman, I. Radojičić Redovniković

Tuesday 23rd September: Day 4

Dynamic Diagnostic Analysis and Modelling

09:00 - 09:45	Lecture 17: Tools for in-vivo Diagnosis of Pathway Reactions	M. Reuss
09:45 - 10:30	Lecture 18: Dynamic Modeling of Metabolism	M. Reuss

Use of Enzymes

11:00 - 11:45	Lecture 19: Biocatalytic Process Engineering	E. Overgaard Willer
12:00	**Social Boat Trip to Bol**	

Wednesday 24th September: Day 5

Downstream Processing

08:30 - 09:15	Lecture 20: Downstream Processing 1	L. van der Wielen
09:15 - 10:00	Lecture 21: Downstream Processing 2	L. van der Wielen
10:00 - 10:30	**Coffee break**	
10:30 - 11:15	Lecture 22: Downstream Processing 3	L. van der Wielen
11:15 - 13:00	Exercise: Case study - Downstream Processing	L. van der Wielen
13:00 - 14:00	**Lunch**	

Modern Measurement Techniques and Optimisation

14:00 - 14:45	Lecture 23: Bioprocess and Fermentation Monitoring	M. Jenzsch
14:45 - 15:30	Lecture 24: Soft-sensors for Bioprocess Monitoring	C. Haringa
15:30 - 16:00	**Coffee break**	

Special Cases 1 and 2

16:00 - 16:45	Lecture 25: Recombinant Protein Production with Different Hosts	M. Jenszch
16:45 - 17:30	Lecture 26: Bioprocess Engineering for Stem Cell Culture	Q. Rafiq
19:00 - 20:15	**Dinner**	
20:30	**Wine Culture and Art of Wine Tasting in Europe**	M. Berovič

Thursday 25th September: Day 6

Special Cases 3 and 4

09:00 - 09:45	Lecture 27: Culture of Human Mesenchymal Stem Cells on Microcarriers	Q. Rafiq
09:45 - 10:30	Lecture 28: Biocatalysis in non-conventional media	N. Krieger
10:30 - 11:00	**Coffee break**	

Control of Bioprocesses

11:00 - 11:45	Lecture 29: Introduction to Control of Bioprocesses	J. Huusom
11:45 - 12:30	Lecture 30: Advances in Control of Bioprocesses	J. Huusom
12:30 - 14:00	**Lunch**	
14:00 - 18:30	Free time	
18:30 - 20:00	**Dinner**	
20:15	**Farewell Party and Presentation of Certificates and Case Study Prize**	

Friday 26th September: Day 6

Departure