



Faculty of Engineering, Built Environment and Information Technology

Fakulteit Ingenieurswese, Bou-omgewing en
Inligtingtegnologie / Lefapha la Boetšenere,
Tikologo ya Kago le Theknoloetši ya Tshedimošo

Study Guide

Department of Informatics

2022/02/14

INF214: DATABASE ANALYSIS AND DESIGN

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1 Introduction

1.1 Welcome

A warm welcome to you as a student in the Department of Informatics! We hope you are going to enjoy your studies this year! Informatics studies the application and use of computer and information systems within the organisation. Our students' strengths lie in their broad background of the economic and management sciences, which implies that the world of business is nothing new to them. The use of Information Technology in organisations is growing exponentially and new, more complex and challenging applications are explored and developed on a daily basis. The work of an informatics specialist is extremely interesting, but studying Informatics has an added benefit in that there is a very small chance that the qualified informatician will ever be without work.

South Africa is an advanced user of Information Technology, and work opportunities for IT graduates have never been problematic. The work world and environment that we prepare you for through our degree in Informatics, is international and a substantial number of our students are successful when they, in the process of expanding their professional skills, seek employment overseas. We also take great care to ensure that our curriculum is in line with the curricula of overseas universities and we take part in and participate in overseas conferences where educational approaches and curricula are presented and discussed. Our BCom (Informatics) degree is one of only a handful of qualifications outside the USA that is internationally accredited by ABET (see www.abet.org). Our best wishes accompany you - may you find pleasure in gaining this sought-after knowledge!

1.2 Educational approach

The general objective with this module is to emphasise understanding rather than memorising, in order to stimulate creative thinking and the development of innovative skills amongst students in the area of Database Design. Student-centred and co-operative learning and teaching methods are applied during lectures as well as practical sessions, in order to optimally develop the above skills.

You are expected to participate in discussions during all sessions. Your fellow students are dependent on the inputs you provide; therefore, your participation is crucial. After all, you are also dependent on their contributions.

Please read our Departmental Brochure on ClickUP. It provides you with details such what to do when you were ill during a test, or who to ask for specific help or information. The brochure is very helpful so please go through it to take note and understand all the important things that you need to know.

It is our hope that you will find your studies informative, formative and enjoyable.

1.3 Responsibilities of the student

Full detail about what is required from you as a student will be posted on ClickUP under the links Schedule and notes, as well as Assessment. Please refer to (6) General Schedule for an overview of the subject schedule and when students are required to participate in activities and tasks.

2 Administrative information

Communication related to INF214 will be distributed by means of ClickUP announcements. Please refer to your ClickUP announcements as regularly as possible as well as the announcements sent out by ClickUP e-mail.

2.1 Contact details

ROLE	NAME	BUILDING & ROOM NUMBER	TELEPHONE (012) 420-	EMAIL ADDRESS
Coordinator	Dr. Sunet Eybers	IT 5-63	3709	sunet.eybers@up.ac.za
Lecturer	Dr. Henk Pretorius	IT 5-65	3368	Henk.pretorius@up.ac.za
Assistant Lecturer	Ms Naomi Naidoo	IT 5-70	4177	Naomi.naidoo@up.ac.za
Teaching Assistant	Ms Shannon Noel	----	----	Inf214course@gmail.com

Consultation hours will be published on ClickUP. Lecturers do not consult outside their stipulated hours. Please make a note of the consultation hours when published on ClickUP.

Important: use the following course email address for any module related communication: inf214course@gmail.com. In the subject line, clearly state the nature of your question, i.e. practical and / or theory, followed by your request and student number, for example: Practical – activity 3 – u12345678



Your Faculty Student Advisor can advise you on goal-setting, adjustment to university life, time management, study methods, stress management and career exploration. Book an individual consultation or attend a workshop. For other support services see Section 5.

2.2 Timetable

Use the University of Pretoria's timetable which is available on the Student Portal to determine where and when you have classes. Lectures are compulsory. Students complete class activities in lecture sessions if and when required.

In an online class, students are allowed to complete the activities after attending an online class session or may listen to the recording of the session and complete the class or practical activity afterwards. Please upload all assignments before the due date.

- Please consult Clickup for the latest updates on class sessions, i.e. online or in-person.**

2.2.1 Theory sessions

- Sessions are as scheduled by UP Administration – Please refer to your UP timetable for when sessions are scheduled.
- Special online sessions will be scheduled when needed.
- General consultation can be scheduled as online or in-person appointments and discussions and might vary depending on current university and national regulations.

4. Every Monday new notes and material will be posted that students may use for the subject. PowerPoint Slides will be provided with annotation as well as additional notes where feasible as well as reasonable.
5. Every Thursday students need to complete a class activity before the end of the week and submit the class activity online (midnight). Activities due on Fridays may be hand drawn. These hand drawn images may be photographed (by means of your phone) or scanned and then submitted as an image.
6. The link to the booking system will open on a Thursday afternoon at 15:00 for the following week and can be accessed here:
<https://docs.google.com/forms/d/e/1FAIpQLSdSGrxmzgTCoLh4KjWn1HcuGRlt28UkVGULUZdyViOpC5R9g/viewform>
 (note, no booking, no access)
 You need to book your seat on a weekly basis.

2.2.2 Practical sessions

1. In-person practical sessions are presented during the Monday practical session at 10:30. Due to current regulations, session attendance will work on a pre-booked system. This session is recorded and available after the class.
2. Due to informatorium venue restrictions the access to the remainder of the sessions are available on a pre-booked system and should be booked on a weekly basis.
3. The link to the booking system will open on a Thursday afternoon at 15:00 for the following week and can be accessed here:
https://docs.google.com/forms/d/1ZBgNOOrFmTK262dxcj0OybfDQ_X5m0ailpLmyHbnvk_I/edit
 (note, no booking, no access)
4. You need to book your seat on a weekly basis.
5. During the Tuesday practical sessions, starting at 09:30 and 11:30, the solution to the previous week's practical activity will be discussed. Both sessions will be exactly the same and a recording of one of the sessions will be available after the class. Note: The Tuesday sessions will only cover the solution if a practical activity was submitted the previous week. Alternatively the session will provide trouble-shooting and small group assistance.
6. The remainder of the practical sessions will focus on trouble-shooting and small group assistance.
7. Additional special online sessions will be scheduled when needed.
8. General consultation can be scheduled as online or in-person appointments and discussions and might vary depending on current university and national regulations.
9. Every Monday new notes and material will be posted that students may use for the subject. PowerPoint Slides will be provided with annotation as well as additional notes where feasible as well as reasonable.

INF214 General Schedule – 2022

	MONDAY			TUESDAY			WEDNESDAY			THURSDAY			FRIDAY
	Classes	Presented by	Consultation	Classes	Presented by	Consultation	Classes	Presented by	Consultation	Classes	Presented by	Consultation	
07:30 to 08:20	Theory L1G2 EMS 4-150 (online assistance)	Dr Henk Pretorius											
08:30 to 09:20	Theory L1G1 Centenary 3 In-person lecture (recorded)	Dr Henk Pretorius	Dr Sunet Eybers			Dr Sunet Eybers			Dr Sunet Eybers			Ms Naomi Naidoo	
09:30 to 10:20			Dr Henk Pretorius / Dr Sunet Eybers	Practical G3 Purple Lab Practical activity solution / trouble-shooting	Dr Sunet Eybers		Practical G6 Purple Lab Trouble-shooting & assistance	Dr Sunet Eybers				Ms Naomi Naidoo	
10:30 to 11:20	Practical session (G1) Purple Lab In-person lecture (recorded)	Dr Sunet Eybers	Dr Henk Pretorius							Practical G9 Blue Lab 3 Trouble-shooting & assistance	Ms Naomi Naidoo	Dr Henk Pretorius	
11:30 to 12:20				Practical G4 Purple Lab Practical activity solution / trouble-shooting	Ms Naomi Naidoo		Practical G7 Purple Lab Trouble-shooting & assistance	Ms Naomi Naidoo					
12:30 to 13:20	Practical session (G2) Purple Lab Recording available	Dr Sunet Eybers / Ms Naomi Naidoo								Theory L2G1 Centenary 3 In-person class activity	Dr Henk Pretorius		
13:30 to 14:20				Practical G5 Purple Lab Trouble-shooting & assistance	Ms Shannon Noel		Practical G8 Purple Lab Trouble-shooting & assistance	Ms Shannon Noel		Theory L2G2 EMS 4-151 In-person class activity	Dr Henk Pretorius		
14:30 to 15:20			Ms Naomi Naidoo									Ms Naomi Naidoo	
15:30 to 16:20													
16:30 to 17:20													

2.3 Study material and purchases

The following is the only book to be purchased for INF214. All additional material will be provided by means of ClickUP as required. The following textbook is prescribed for this subject.

Carlos Coronel & Stephen Morris (2019) Database Systems: Design, Implementation, & Management. 13th ed. Boston, MA: Cengage Learning, ISBN: 978-1-337-62790-0

2.4 Programme/Departmental/Module rules, requirements and guidelines

Please read our Departmental Brochure on ClickUP.

2.5 Grievance procedures

All grievances must be submitted in writing with specifics of the incident or the nature of the complaint. It is imperative that you follow the procedure outlined below in order to resolve your issues:

- 1. Consult the lecturer concerned about your grievances/concerns.**
If the matter has not been resolved,
- 2. consult the class representative**
The primary function of the Class Representative is to serve as a two-way communication channel between the class and the lecturer).
If the matter has not been resolved,
- 3. consult the module co-ordinator (large modules with multiple lecturers)**
If the matter has not been resolved,
- 4. consult the Head of Department**
If the matter has still not been resolved,

5. consult with the Dean of the Faculty

3 Module information

3.1 Purpose of the module

Database design: the relational model, structured query language (SQL), entity relationship modelling, normalisation, database development life cycle; practical introduction to database design. Databases: advanced entity relationship modelling and normalisation, object-oriented databases, database development life cycle, advanced practical database design.

3.2 Module outcomes

After the completion of INF 214, a student should be able to.....

3.2.1 Institutional specific outcomes

UPGA_07: communicate well with a range of people and communities in diverse social, cultural, geographical and workplace contexts using appropriate language (oral and written) as well as numerical, graphical and presentation skills. They effectively use relevant knowledge and experience of technology generally and in their fields, information to advance lifelong learning and execute work tasks and are able to gather and synthesise data and summarise key issues. They have up-to-date digital knowledge and experience of technology generally and in their fields.

3.2.2 Accreditation Board for Engineering and Technology

- **ABET_06_PO_03:** design and implement information technology solutions that enhance organizational performance.

3.2.3 INF214 Specific Module Outcomes

- **MO1:** create and critically evaluate relational database models, its basic concepts and components with application in a business context.
- **MO2:** interpret, deconstruct and create SQL for data administration, data manipulation and querying in the context of database development life cycle.

3.3 Module structure

INF214 consists of two significant sections, namely a theoretical as well as a practical syllabus. The two sections complement each other and support each other in understanding how databases are designed, implemented and how it functions at the end of the day. Both sections carry the exact same weight as each other in the completion of this subject. Both sections should be completed successfully to complete INF214 successfully.

3.3.1 Theoretical syllabus

- Study Unit 1: Introduction - Database Concepts
- Study Unit 2: The Relational Model
- Study Unit 3: Entity Relationship Modelling
- Study Unit 4: Advanced Data Modelling
- Study Unit 5: Normalisation
- Study Unit 6: Database Development Life Cycle

3.3.2 Practical syllabus

- Study Unit 1: Getting Started with MS SQL Server

- Study Unit 2: Designing Databases
- Study Unit 3: Retrieving and Manipulating Data
- Study Unit 4: Designing Advanced Database Objects

3.4 Learning presumed to be in place

Students should have successfully completed AIM 101 or AIM 111 and AIM 121

3.5 Credit map and notional hours

The number of credits allocated to a module give an indication of the volume of learning required for the completion of that module and is based on the concept of notional hours. Given that this module carries a weighting of 14 credits, it follows that you should spend an average of 10x14 hours of study in total on the module (1 credit = 10 notional hours).

This includes time for lectures, assignments, projects, tests and exams. This means that you should spend approximately 140 hours over 14 weeks, or rather, 10 hours a week, to successfully complete INF214.

4 Assessment

4.1 Assessment plan – Practical Activities

Assessment	Mode of assessment	Type	Task	About	Due date	Mark allocation
Practical activity 1	Online	Practical activity	Scripting	SQL Basics - SQL Scripting and database population (modifying data)	2022/03/04	(SM) 2
Practical activity 2	Online	Practical activity	Scripting	Simple / 1 table SQL queries	2022/03/11	(SM) 2
Practical activity 3	Online	Practical activity	Scripting	Multi-table SQL queries	2022/03/18	(SM) 2
Practical activity 4	Online	Practical activity	Scripting	Multi-table SQL queries (cont.)	2022/04/01	10
Practical activity 5	Online	Practical activity	Scripting	Integrated activity, i.e. all the practical covered so far.	2022/05/13	10
Practical activity 6	Online	Practical activity	Scripting	Summary queries – functions, grouped queries and search conditions.	2022/05/20	(SM) 2
Practical activity 7	Online	Practical activity	Scripting	Subqueries and query expressions	2022/05/27	(SM) 2
Practical activity 8	Online	Practical activity	Scripting	Integrated activity, i.e. all the practical covered so far.	2022/06/03	10
Practical activity 9	Online	Practical activity	Scripting	Integrated activity, i.e. all the practical covered so far.	2022/06/10	10
TOTAL						50

4.2 Assessment plan – Theory Activities

Assessment	Mode of assessment	Type	Task	About	Due date	Mark allocation
Class activity 1	Online	Class theoretical activity	Written	Chapter 2 and 3: Design and relational algebra	2022/03/11	(SM) 2
Class activity 2	Online	Class theoretical activity	Online	Chapter 1 - 4: Entities, relationships, attributes (what is the data doing?)	2022/03/18	(SM) 2

Assessment	Mode of assessment	Type	Task	About	Due date	Mark allocation
Class activity 3	Online	Class theoretical activity	Written	Chapter 4: Attributed, relationships (dependencies) and cardinalities (what is the data doing?)	2022/04/01	(SM) 2
Class activity 4	Online	Class theoretical activity	Written	Chapter 5: Inheritance, discriminators and constraints.	2022/04/08	(SM) 2
Homework (HW) 1	Online	Group Assignment	Analysis & design	Homework 1 focus on design so it would require knowledge of chapter 1, 2, 3 and 4.	2022/04/25	13
Class activity 5	Online	Class theoretical activity	Written	Chapter 5: Inheritance, discriminators and constraints	2022/05/13	10
Class activity 6	Online	Class theoretical activity	Written	Chapter 6: Inheritance, discriminators and constraints AND conversion to 1 and 2 NF	2022/05/20	(SM) 2
Class activity 7	Online	Class theoretical activity	Written	Chapter 7: Conversion to 3NF	2022/05/27	(SM) 2
Class activity 8	Online	Online quiz	Written	All theory work covered so far.	2022/06/03	(SM) 2
Homework (HW) 2	Online	Group Assignment	Analysis & design	Homework 2 will require knowledge of simple normalisation and requires knowledge from chapter 1, 2, 3, 4, 5, 6.	2022/06/10	13
TOTAL						50

4.3 Assessment plan – Formal assessments

Assessment	Mode of assessment	Type	Task	About	Due date	Mark allocation
Semester Test	Online OR Physical*	Theory	Written	Chapter 1, 2, 3, 4, 5	Consult UP timetable	TBC
Practical Semester Test	Online OR physical*	Practical	Written / Scripting	Practical 1, 2, 3, 4 and 5 as well as Chapter 7 and 8 of prescribed theory textbook	Consult UP timetable	TBC
EXAM	Online OR physical*	All listed types	All listed tasks	All listed content	Consult UP timetable	TBC

*depending on current university and national regulations

Please note:

- SM = A submission mark will be allocated if students uploaded their attempt for the class or practical activity. The memorandum containing the correct answers will be uploaded for students to compare their attempts. **Wrong documents or incomplete attempts will not be awarded the submission mark.**
- In general, all theoretical and practical activity submissions are due on a Friday before 23:59 (uploaded to ClickUP).
- Homework assignments are group activities and submitted as an electronic copy (Uploaded to ClickUP)
- Semester Tests and exams are scheduled by university administration and should be confirmed as such.
- **With written class activities (referenced in 4.1), students are allowed to draw a model or solution by hand, photograph / scan the solution and then upload the image.**

4.4 Assessment policy

Semester Average [as calculated at the end of the semester]	
• Semester Test (Theory)	30%
• Semester Test (Practical)	30%
• Group Theory Assignment (s) (homework assignments)	10%
• Theory Assignments and Exercises (activities)	10%
• Practical Assignments and Exercises (activities)	20%
Final semester average [need 40% to write exam]	100%

Final Course Average [as calculated at the end of the exam]	
• Semester mark contribution	40 %
• Theory exam mark contribution (need 50% to pass theory exam)	30 % **
• Practical exam mark contribution (need 50% to pass practical exam)	30 % **
Final module average [need 50% to pass course]	100%

Please note that for INF214, you are required to pass both sections of the exam to pass the subject.

- Please note that a sub-minimum of 40% as a semester module mark is needed to gain access to the exam.
- According to faculty regulations you have to obtain a final mark of 50% or more, to pass this module.
- Students need to pass both the practical as well as the theoretical sections of this module. If a student for example fails the practical section, however passes the theoretical section, the student fails. If for example the student passes the practical section, however fails the theoretical section, the student still fails. Both sections need to be passed to complete this subject.

SEMESTER AVERAGE	THEORY (Section A)	PRACTICAL (Section B)	FINAL (A+B)	NOTE
Exam Refusal	---	---	---	May not write exam
Exam Entrance	Pass	Less than 40%	Pass	Re-Exam
Exam Entrance	Less than 40%	Pass	Pass	Re-Exam
Exam Entrance	Pass	Pass	Pass	Pass (50% or more)

Please read our Departmental Brochure on ClickUP.

4.5 Plagiarism

Plagiarism is a serious form of academic misconduct. It involves both appropriating someone else's work and passing it off as one's own work afterwards. Thus, you commit plagiarism when you present someone else's written or creative work (words, images, ideas, opinions, discoveries, artwork, music, recordings, computer-generated work, etc.) as your own. Only hand in your own original work. Indicate precisely and accurately when you have used information provided by someone else. Referencing must be done in accordance with a recognised system. Indicate whether you have downloaded information from the Internet.

For more details, visit the library's website: <http://www.library.up.ac.za/plagiarism/index.htm>.

5 Support services

Please download a QR code reader on your cellphone. To download a QR code reader open your mobile app store (App Store, Google Play or Windows Marketplace) and search for QR code readers.




5.1 Safety in the evening and emergencies




- For any safety or emergency related matters, eg if you need a security officer to accompany you from your residence to campus, phone the Operational Management Centre (details at the back of your student card).
- The 24-hour, multi-disciplinary UP Crisis Line offers professional and confidential support to victims of crime in times of trauma. For assistance and immediate action, phone the UP Crisis Line on: 0800 00 64 28.
- Hatfield residence students: From 18:00 till 06:00 security officers are available to escort you (on foot) to and from your residence or campus anywhere east of the Hatfield Campus through to the Hillcrest Campus.

5.2 E-learning support

- Report a problem you experience to the Student Help Desk on your campus.
- Visit the open labs in the Informatorium Building or IT labs on your campus to report problems at the offices of the Student Help Desk.
- Approach the assistants at the help desks—campus specific (for example: adjacent to the Student Computer Laboratories in IT Building, NW2, CBT or Aldoel Building IT labs, etc).
- Call 012 420 3837.
- Email studenthelp@up.ac.za

5.3 Other support services:

FLY@UP: The Finish Line is Yours	<ul style="list-style-type: none"> • Think carefully before dropping modules (after the closing date for amendments or cancellation of modules). • Make responsible choices with your time and work consistently. • Aim for a good semester mark. Don't rely on the examination to pass. 	www.up.ac.za/fly@up email: fly@up.ac.za	
Disability Unit	Academic support for students with learning disabilities: <ul style="list-style-type: none"> • Assistive technological services • Facilitation of test and examination accommodations • Test and exam concession applications • Accessible study venues and a computer lab • Referrals for recommended textbooks in electronic format 	https://www.up.ac.za/disability-unit 012 420 2064 email: du@up.ac.za	
Student Counselling Unit	Provides counselling and therapeutic support to students	012 420 2333	

Student Health Services	Promotes and assists students with health and wellness	012 420 5233 012 420 3423	
The Careers Office	Provides support for UP students and graduates as they prepare for their careers	careerservices@up.ac.za 012 420 2315	
Department of Security Services	24-hour Operational Management Centre 24-hour Operational Manager Crisis Line	012 420-2310 012 420-2760 083 654 0476 0800 006 428	
Department of Student Affairs	Enquiries concerning studies, accommodation, food, funds, social activities and personal problems	012 420 2371/4001 Roosmaryn Building, Hatfield campus	
Centre for Sexualities, AIDS and	Identifies and provides training of student peer counsellors	012 420 4391	
Fees and funding	http://www.up.ac.za/enquiry www.up.ac.za/fees-and-funding	012 420 3111	
IT Helpdesk	For student IT related queries	012 420 3051 studenthelp@up.ac.za	

6 General Schedule

1. Always check the official UP test and examination timetable to confirm test dates. The scope for the Semester Test is Chapter 1, 2, 3, 4 and 5 of prescribed theory textbook.
2. The scope for the Practical Semester Test is Chapter 1, 2, 3, 4 and 5 as well as Chapter 7 and 8 of prescribed theory textbook.
3. Theory Semester Test and Practical Semester Test may be merged based on requirements and specifications.

#	Date	Theory Content	Practical Content	Student tasks
1	21-25 February 2022	Admin Theory lecture session 1: Chapter 1	How to install SQL Server Management Studio software (self-study).	Practical: Install SQL Server Management study.
		Theory lecture session 2: Chapter 2		
2	28 February – 4 March 2022	Theory lecture session 1: Chapter 3	Introduction to SQL Server Management environment. SQL Basics – SQL Scripting and dataset population (modifying data)	Practical activity 1 due date 4 March 2022 (midnight)
		Theory lecture session 2: Chapter 3		
3	7-11 March 2022	Theory lecture session 1: Chapter 3	Simple / 1 table SQL queries.	Class activity 1 AND Practical activity 2 due date 11 March 2022 (midnight). .
		Theory lecture session 2: Class activity 1 (Design and relational algebra)		
4	14-18 March 2022	Theory lecture session 1: Chapter 4	Multi-table SQL queries.	Class activity 2 AND Practical activity 3 due date 18 March 2022 (midnight). .
		Theory lecture session 2: Class activity 2 (Entities, relationships, attributes – what is the data doing?)		
5		Theory lecture session 1: Chapter 4 (cont.)	Multi-table SQL queries (cont.).	Class activity 3 AND Practical activity 4 due date 1 April 2022 (midnight).

	28 March – 1 April 2022	Theory lecture session 2: Class activity 3 (attributes, relationships (dependencies) and cardinalities (what is the data doing?))		
6	4 – 8 April 2022	Theory lecture session 1: Chapter 5	Multi-table SQL queries (revision and semester test discussion / preparation.	Class activity 4 due 8 April 2022. Homework 1 (group) due date 25 April 2022. No practical activity.
		Theory lecture session 2: Class activity 4 (Inheritance, discriminators and constraints).		
26 April 2022		Semester test		
7	9-13 May 2022	Theory lecture session 1: Discuss semester test (theory) & Chapter 5	No practical class, only practical activity based on all the practical work covered so far.	Class activity 5 AND Practical activity 5 due 13 May 2022.
		Theory lecture session 2: Class activity 5 (Inheritance, discriminators and constraints. Generalize & Specialize.		
8	16–20 May 2022	Theory lecture session 1: Chapter 6	Summary queries – functions, grouped queries and search conditions.	Class activity 6 AND Practical activity 6 due 20 May 2022 (midnight)
		Theory lecture session 2: Class activity 6 (inheritance, discriminators and constraints, generalize and specialize) & Conversion to 1 and 2 NF		
9	23-27 May 2022	Theory lecture session 1: Chapter 6	Sub-queries and query expressions.	Class activity 7 AND Practical activity 7 due date 27 May 2022 (midnight)
		Theory lecture session 2: Class activity 7 (progress to conversion to 3NF ERD)		
10	30 May – 3 June 2022	Theory lecture session 1: Chapter 9	No new work. Practical activity only based on all the practical work covered so far.	Class activity 8 AND Practical activity 8 due 3 June 2022 (midnight)
		Theory lecture session 2: Class activity 8 online quiz		

11	6 - 10 June 2022	Theory lecture session 1: What to expect in the exam	No new work. Practical activity only based on all the practical work covered so far (similar to what can be expected in the Exam).	Integrated homework activity (HW 2) due 10 June 2022 (midnight) Practical activity 9 due 10 June 2022.
		Theory lecture session 2: None.		
June 2022		Examination		