



BUSINESS SCHOOL  
Te Kura Pakihi

# COMP 101: Foundations of Information Systems

COURSE OUTLINE

Semester One, 2021

# Student Support

## Reference for staff and students

Refer numbers below to Specific Support contacts list for contact details.

- Spiritual and cultural connections  
(3, 8, 10, 14, 15, 16, 17)
- Socialising and fun  
(12, 14, 15, 17, 19, 20, 26)
- Physical health and well-being  
(5, 8, 10, 12, 14, 15, 16, 17, 23, 26)
- Mental health and well-being  
(4, 5, 7, 8, 10, 12, 14, 16, 17, 19, 23, 25)
- Course advice  
(6, 8, 14, 22)
- Academic support  
(5, 8, 9, 10, 11, 12, 14, 16, 17, 22)
- Careers and employability  
(2, 16, 20, 24)
- Financial support  
(14, 16, 17)
- Flatting and accommodation  
(10, 12, 13, 14, 16, 17, 21)
- Assault or sexual violence  
(1, 12, 14, 16, 17, 18, 23, 25)
- Disputes, bullying, social media harm  
(1, 8, 10, 12, 13, 14, 16, 17, 18)
- International student support  
(2, 5, 8, 10, 12, 15, 16, 17, 23)
- LGBT Support  
(10, 12, 14, 15, 16, 23)

## Specific support contacts

1. Campus Watch | (24/7) 0800 479 5000
2. Career Development Centre | 0 479 8244
3. Chaplains | [chaplains@otago.ac.nz](mailto:chaplains@otago.ac.nz)
4. Counselling – needtotalk? | Freetext/all1737
5. Disability Information and Support | 03 47 8235
6. Department course advisors | (Nigel & Tony)
7. Emergency Psychiatric Service | 0800 467 846
8. Graduate Research School | 03 479 5737
9. HEDC – Student Learning Development | 03 479 8801
10. International Office [international.support@otago.ac.nz](mailto:international.support@otago.ac.nz)
11. Librarians | [ask.library@otago.ac.nz](mailto:ask.library@otago.ac.nz)
12. Locals Collegiate Community | [locals@otago.ac.nz](mailto:locals@otago.ac.nz)
13. Manager Facilitation and Mediation | 03 47 5679
14. Māori Centre | 03 479 8490
15. OUSA Clubs and Societies | 03 479 5960
16. OUSA Student Support | 03 479 5449 email: [help@ousa.org.nz](mailto:help@ousa.org.nz)
17. Pacific Islands Centre | 03 479 8278
18. Proctor | 0800 479 5000
19. Silverline [silverline@otago.ac.nz](mailto:silverline@otago.ac.nz)
20. Social Impact Studio | [volunteer@otago.ac.nz](mailto:volunteer@otago.ac.nz)
21. Student Accommodation Centre 03 479 4166
22. Student Development | 0800 808 098 (AskOtago)
23. Student Health | 0800 479 821
24. Student Job Search | [sjs.co.nz](http://sjs.co.nz)
25. Te Whare Tāwharau: Sexual Violence Support and Prevention Centre | 03 479 3790
26. Unipol | 03 479 5888 email: [recreation@otago.ac.nz](mailto:recreation@otago.ac.nz)

Contact AskOtago if you're not sure where to start, or need help with anything else. 0800 808 098 | [ask.otago.ac.nz](http://ask.otago.ac.nz)

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## Paper Description and Aims

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Information systems and information and communication technology (ICT) play indispensable roles in modern society. Almost every facet of our lives is influenced by some form of ICT. COMP 101 serves to introduce you to the basic concepts of computing and information systems, preparing you for later study in such disciplines. By the end of COMP 101, you should understand how information is encoded for computing, and how this shapes your approach to applying computational solutions to problem solving. You will get hands-on experience in labs with methods for storing and manipulating databases, and see how these fit into the larger world of developing applications. Finally, you will be exposed to, and discuss the relative merits of, current and emerging trends in ICT and how these impact on the development of information systems now and in the near future.

COMP 101 operates under a typical paper structure – lectures and labs will be used to present and discuss material relevant to the paper. Within these sessions, there will be opportunities for discussion, and where appropriate, classes may draw on more interactive techniques to support the content, or refer to external online content for context.

## Learning Outcomes

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Upon successful completion of this paper, you should be able to:

1. explain the distinctions between data and information
2. understand basic concepts of computational approaches to information processing (e.g. binary encodings, algorithms and complexity, tool chains to develop computer programs)
3. understand elementary processes of data collection, and identify basic issues relating to data quality
4. understand basic concepts of modelling, implementing and using relational databases, and be able to read and write basic SQL statements to manipulate relational databases
5. explain the basic components of information systems, and the role of information systems in supporting an organisation's strategic and operational needs.
6. explain contemporary trends such as big data, machine learning, cloud computing, and their implications for individuals and organisations

# Teaching Staff

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## Paper Coordinator and Lecturer

Name: Grant Dick  
Office: 9.08, 9<sup>th</sup> Floor, Otago Business School  
Email: [grant.dick@otago.ac.nz](mailto:grant.dick@otago.ac.nz)  
Office Hours: 11-12 am Tuesday, 10-11am Thursday

## Lab Coordinator

Name: Gary Burrows  
Office: 9.09, 9<sup>th</sup> Floor, Otago Business School  
Email: [gary.burrows@otago.ac.nz](mailto:gary.burrows@otago.ac.nz)

## Labs

Name: Chris Edwards  
Office: 8.13, 8<sup>th</sup> Floor, Otago Business School  
Email: [chris.edwards@otago.ac.nz](mailto:chris.edwards@otago.ac.nz)

Other staff will be present in labs on a more ad hoc basis for support and general discussion. You will be introduced to these staff during your lab times.

# Course Delivery

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Every week students must attend *two 50 minute lectures* and a *single 110 minute lab* (see '[Locations and Times](#)' for details of days, times, and rooms):

- **Lectures** present the key conceptual material through discussion and interaction between teaching staff and students. Multimedia and class exercises may be used to supplement the presentation. Lectures are occasionally supported by readings as indicated on Blackboard.
- **Labs** are interactive, collaborative sessions in which students attempt to cement concepts presented at lectures with their peers in a supportive environment. Labs are also used to discuss and work on assignment tasks.

*You are expected to attend the lab in your assigned lab stream. You are also welcome to attend more than one lab stream if you feel that you need more time to focus on the concepts discussed in a given lab as long as spare seats are available in the additional lab stream you are attending.*

The [Course Calendar](#) (page 6) details semester dates, lecture topics, labs, and assessment related scheduling information. Note that this calendar may change as the course proceeds. These will be announced at lectures and detailed on Blackboard.

*Students are required to prepare for and attend all classes to gain full benefit from the course.*

These activities should be prepared for by reviewing information detailed on Blackboard and completing any assigned readings. Students unable to attend a lecture are expected to catch up on missed material. Unless stated otherwise, all aspects of the course are examinable (see below).

## Locations and Times

Lectures and labs are held in the following locations:

- Lectures – Monday lecture will be held in [Tower Block G07](#) (located on the ground floor of the University of Otago College of Education Tower Block, 155 Union Street East.). Wednesday lecture will be held in [Castle 1](#) (located on the ground floor of the Castle Lecture Theatre Complex).
- Labs – The labs will be held in [OBS 1.18](#) (1<sup>st</sup> Floor of the Otago Business School), [Central CAL](#) (Richardson Building, Ground Floor), or [North CAL](#) (Science 3 Building).

Your personal timetable is in [eVision](#) – please check that for your streamed lab time and location.

	Monday	Tuesday	Wednesday	Thursday	Friday
9am					Lab - A6
10am					(OBS118)
11am					Lab - A7
12pm			Lecture 2	Lab - A3 (NCAL)	(OBS118)
1pm	Lecture 1		Lab - A1 (OBS118)	Lab - A4 (OBS118)	Lab - A8 (OBS118)
2pm					
3pm				Lab - A5 (OBS118)	
4pm			Lab - A2 (CNCAL)		
5pm					

Figure 1 Lecture and lab timetable. Attend one class of each colour each week.

## Expectations and Workload

The teaching team (see [Teaching Staff](#)) are committed to creating the best possible environment to facilitate student learning. However, learning is a joint activity that requires active participation from the learner. Students are therefore expected to attend and participate in all facets of the course. This includes activities such as revising material, completing assigned work, spending extra time researching difficult concepts, in addition to participating in lectures, labs, and assessments.

COMP 101 is worth 18 points, which equates to spending 12 hours per week on the course (in accordance with University guidelines). This calculation includes the mandatory contact hours of lectures and labs totalling 4 hours per week. The remaining 8 hours should be used for reading (assigned and personal research), lab preparation and completion, and course revision.

# Course Learning Resources

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## Blackboard

Blackboard <https://blackboard.otago.ac.nz/> provides you with access to course materials, class notices, and resources. Blackboard is used to email the whole class, so it is important that you check your student email and *Blackboard* regularly.

More general-purpose information related to your studies can be found on Blackboard under the "Study-Related Information" section.

## Assessment

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All material presented is examinable (except where stated otherwise) by internal assessment and the final examination. All relevant assessment information such as due dates and times, content, guidelines and so on will be discussed at lectures and, where appropriate, detailed on Blackboard. *Students are responsible for ensuring that they are aware of this information, keeping track of their own progress, and catching up on any missed classes.*

Assessment	Due date	% of final grade	Requirements to pass this paper
Lab assessments	In labs: weeks 10-13 and 15-20	(best 7 out of 9 labs) $7 * 2 = 14$	Terms (see Course Requirements below)
Blackboard Test 1	Week 13	10	Terms (see Course Requirements below)
Blackboard Test 2	Week 18	8	Terms (see Course Requirements below)
Practical Test	Week 21	8	Terms (see Course Requirements below)
Final Exam	TBA	60	Exam Hurdle (see Course Requirements below)

## Course Requirements

COMP 101 has the following *terms requirements*.

1. You must participate in five or more lab assessments (out of nine). Students *failing to participate in at least five lab assessments will not be allowed to sit the final exam*.
2. You must score an average of 40% over three assessments - two Blackboard tests and the practical test. Students *failing to achieve this average will not be allowed to sit the final exam*.

COMP 101 has the following *exam hurdle*.

1. You must *achieve a mark of 40% or better in the final examination in order to pass the paper, regardless of your internal assessment performance*.

## Special Consideration

On certain grounds (e.g., illness or bereavement), special consideration on internal assessment may be given. Special consideration is given on a case-by-case basis and *must be requested from the course coordinator prior to the assessment deadline*.



## Course Calendar

Week	Date	Lectures	Labs	Assessment/Notes
<b>9</b>	01-Mar -	1 Welcome		
	05-Mar	2 Data, information and binary encodings		
<b>10</b>	08-Mar -	3 Data representations (I)	1 Data representation & Introduction to R programming	<i>Lab Assessment 1 (2%)</i>
	12-Mar	4 Data representations (II)		
<b>11</b>	15-Mar -	5 Data representations (III)	2 R programming (continued)	<i>Lab Assessment 2 (2%)</i>
	19-Mar	6 Algorithms (I)		
<b>12</b>	22-Mar -	7 Algorithms (II)	3 Implementing algorithms	<i>Lab Assessment 3 (2%)</i>
	26-Mar	8 Algorithms (III)		
<b>13</b>	29-Mar -	9 Executing algorithms (I) - machine architectures	(No Lab - GOOD FRIDAY OBSERVED)	<i>Blackboard test 1 (10%)</i>
	02-Apr	10 Executing algorithms (II) - programming languages and compilation		
<b>14</b>	05-Apr - 09-Apr	<b>Mid-Semester Break</b>		
<b>15</b>	12-Apr -	11 Data modelling (I) - entity relationship diagrams	4 Compiling and linking programs	<i>Lab Assessment 4 (2%)</i>
	16-Apr	12 Data modelling (II) - the relational model		
<b>16</b>	19-Apr -	13 Structured Query Language (SQL) (I)	5 Data modeling	<i>Lab Assessment 5 (2%)</i>
	23-Apr	14 Structured Query Language (SQL) (II)		
<b>17</b>	26-Apr -	(No Lecture - ANZAC DAY OBSERVED)	6 Building a relational database	<i>Lab Assessment 6 (2%)</i>
	30-Apr	15 Structured Query Language (SQL) (III)		
<b>18</b>	03-May -	16 Structured Query Language (SQL) IV	7 Inserting and deleting data	<i>Blackboard test 2 (8%) &amp; Lab Assessment 7 (2%)</i>
	07-May	17 Non-relational databases and application development		
<b>19</b>	10-May -	18 Networks and the internet	8 Querying data (I)	<i>Lab Assessment 8 (2%)</i>
	14-May	19 Networks and "The Cloud"		
<b>20</b>	17-May -	20 Security (I)	9 Querying data (II)	<i>Lab Assessment 9 (2%)</i>
	21-May	21 Security (II)		
<b>21</b>	24-May -	22 Data science, machine learning and AI (I)	10 Practical test during lab	<i>Practical test (8%)</i>
	28-May	23 Data science, machine learning and AI (II)		
<b>22</b>	31-May -	24 ICT & ethics		
	04-Jun	25 Wrap-up		

## Disclaimer

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*While every effort is made to ensure that the information contained in this document is accurate, it is subject to change.* Changes will be notified in class and via Blackboard. Students are encouraged to check Blackboard regularly. It is the student's responsibility to be informed.