Agenda

1. Welcome speech by HoD
2. Where are you heading? See where your seniors are
3. Overview of a degree programme
4. Bachelor of Computing (Information Systems)
5. Bachelor of Science (Business Analytics)
6. Internships and Undergraduate Research Programmes
7. Q&A (with faculty members and students)
Hahn Jungpil  
Associate Professor  
Head of Department, DISA  
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Module: IS4302 Blockchain and Distributed Ledger Technologies

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Module: IS5002 Digital Transformation

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Curriculum Committee Member  
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Module: IS2102 Enterprise Systems Architecture and Design,  
IS3106 Enterprise Systems Interface Design and Development,  
IS4103 Information Systems Capstone Project

Sharon Tan  
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Curriculum Committee Member  
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Module: BT1101 Introduction to Business Analytics,  
BT4103 Business Analytics Capstone Project, IS4100 IT Project Management

Oh Lih Bin  
Associate Professor  
Deputy Head (Special Programmes) – Internships (ATAP, IIP, SIP, Co-Op), BTech programme  
ohlb@nus.edu.sg  
Module: IS3103 Information Systems Leadership and Communication,  
IS5128 Digital Innovation
Welcome speech by HoD

Hahn Jungpil
Associate Professor
Head of Department, DISA
jungpil@nus.edu.sg

Module: IS4302 Blockchain and Distributed Ledger Technologies
Where are you heading? See where your seniors are
Recent Information Systems Graduate Employment

- **Microsoft**: Software developer
- **accenture**: System analyst
- **KPMG**: IT security specialist
- **PwC**: Application manager
- **J.P. Morgan**: Software developer
- **HiS**: Software engineer
- **Tencent**: Application manager
- **Cisco**: Application developer
- **SGX**: Innovation Technology Developer
- **Bank of America Merrill Lynch**: Technology analyst
- **AWS**: Business development associate
- **GovTech Singapore**: IT security specialist
- **Singapore Airlines**: Data scientist (Infrastructure)
- **Goldman Sachs**: Technology analyst
- **IBM**: Business Transformation Consultant
Recent Business Analytics Graduate Employment

- GIC: Data scientist
- Citi: Technology Analyst
- Grab: Product Analyst
- BlackRock: Analyst
- Visa: Data science associate
- Housing & Development Board: Technology analyst
- GovTech Singapore: Assistant manager
- DSTA: Engineer
- Google: Data analyst
- Infosys: Data scientist
- UBS: Graduate Trainee
- Goldman Sachs: Software engineer
- Unilever: Data analyst
- Shopee: Statistical officer
- OCB Bank: Associate (Graduate Talent Programme)
- PayPal: Software engineer
How can I prepare for it? Remember the key milestones
How do I plan?

Year 1

Internship after Y1?

Year 2

Hackathon?

Year 3 (penultimate)

Student exchange?

Year 4

Internship?

Capstone project?

NOC?

Dissertation?

How to prepare for job search?
1. Module planning (based on individual aspiration, particularly for programme electives and unrestricted electives)
2. CV review: domain and professional positioning

1. CV review: domain and professional positioning
2. Interview preparation (internship, job interview)
3. Technical test preparation

1. Build your LinkedIn profile from day 1
2. Explore opportunities and discover your interest – attend more industry talks
Overview of a degree programme
Curriculum Structure

- 160 modular credits (MCs) for single degree
- Around 200 MCs for double degree
- For poly-intake, 20 MCs is automatically awarded for unrestricted electives (i.e., up to 12 MCs to fulfil)

<table>
<thead>
<tr>
<th>Modules</th>
<th>MCs</th>
<th>Subtotals</th>
</tr>
</thead>
<tbody>
<tr>
<td>UNIVERSITY LEVEL REQUIREMENTS</td>
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- Read 1 General Education Module (GEM) from each of the 5 pillars
- Students are strongly encouraged to complete all 5 modules within the first two years of their candidature
- Refer to this url: [http://www.nus.edu.sg/registrar/academic-information-policies/undergraduate-students/general-education/five-pillars](http://www.nus.edu.sg/registrar/academic-information-policies/undergraduate-students/general-education/five-pillars)
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- Essential modules that you must do
- For mathematics module requirement, there could be 2 options for you to choose
- Cross-faculty modules (i.e., non CS/IS/BT coded modules), please do clear them as soon as possible
- Be mindful of the pre-requisites
- Capstone project module to be taken when you have sufficient confidence
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- Complete 6 modules
- For specialisation, there is a pre-defined set of modules to take
- You DO NOT NEED to choose a specialisation
- Once fulfil the specialisation requirement, it’ll be reflected in your transcript
- You have lots of elective modules to choose, so choose wisely
# Curriculum Structure

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- Students with CAP of 4.00 or higher after completing at least 70% (i.e. 112 MCs) of the MC requirement for the degree programme may opt to replace the Industry Internship Programme by Dissertation (12 MCs).

- Students who aim for Honours (Highest Distinction) must pass the Dissertation.
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- **Poly-intake:** reduce 20 MCs
- **Doing a minor:** 24 MCs (potentially up to 8 MCs double-counted)
- **Doing a second major:** 48 MCs (potentially up to 16 MCs can be double counted)
- **Suggestion:** Choose more modules from the elective module list. They are specially for you!
Points to take note

- Check your NUS and Comp emails regularly.
  - Don’t ignore email from tancho@comp.nus.edu.sg

- Find your study mate(s)
  - Many of the modules have group-based project and assignment
  - Capstone project is a team-based module

- Watch out your CAP
  - To graduate, you need a minimum CAP of 2.00.
  - To continue in an undergraduate programme of study, a student may not have CAP below 2.00 for two consecutive semesters.
    - For any semester in which the student's CAP falls below 2.00, s/he will be placed on probation.
    - If the student's CAP remains below 2.00 for the second consecutive semester, the student will be issued a letter of dismissal by the Registrar and denied re-admission.

<table>
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<tr>
<th>Honours Degree Classification</th>
<th>Criteria</th>
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<tr>
<td>Honours (Highest Distinction)</td>
<td>CAP 4.50 and above</td>
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<td>Honours (Distinction)</td>
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<td>Honours (Merit)</td>
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<td>CAP 3.00 – 3.49</td>
</tr>
<tr>
<td>Pass</td>
<td>CAP 2.00 – 2.99</td>
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</table>
Points to take note

• Read at least 18 MCs every semester throughout their candidature, except during the following semesters when they are allowed to read fewer MCs:
  • the final semester before completion of all graduation requirements for the degree; and
  • the semester in which the students are undergoing industrial attachment or doing their final year projects.

• Not allowed to opt for a new Minor or Second Major programme beyond the end of the 5th semester of study. Do it early!

• For more information:
  http://www.nus.edu.sg/registrar/academic-information-policies/undergraduate-students/modular-system;
  http://www.nus.edu.sg/registrar/academic-information-policies/undergraduate-students
Points to take note - S/U Option

- May exercise the S/U option for up to 32 MCs in the first two regular semesters; if this is not fully utilised, the S/U option may still be exercised in subsequent semesters, for up to 12 MCs.
  - Poly intake: may exercise the S/U option for up to 20 MCs in the first two regular semesters; if this is not fully utilised, the S/U option may still be exercised in subsequent semesters, for up to 12 MCs.

- S/U option will apply to all Level 1000 modules (with or without pre-requisites) and Level 2000 modules without other NUS modules as pre-requisites, unless otherwise stipulated by the Faculties/Departments.

- S/U option: obtain either a Satisfactory (S) or an Unsatisfactory (U) record for the module
  - Not included in the calculation of your performance
  - 3-day window to decide on S/U after release of exam results
  - Irrevocable!

- You must score a minimum “C” grade to get “S”. Otherwise your transcript will show “U” (Unsatisfactory) for the module. “U” also means that the module cannot be counted as satisfying a pre-requisite.

- For further information: [http://www.nus.edu.sg/registrar/academic-information-policies/undergraduate-students/continuation-and-graduation-requirements](http://www.nus.edu.sg/registrar/academic-information-policies/undergraduate-students/continuation-and-graduation-requirements)
Bachelor of Computing (Information Systems)
# Bachelor of Computing

## Information Systems

<table>
<thead>
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<th>Year 1</th>
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<th>Year 3</th>
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<tr>
<td>S1</td>
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<td>S2</td>
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<tr>
<td><strong>CS1010J</strong></td>
<td><strong>CS2030</strong></td>
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<td><strong>ULR2</strong></td>
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<td>20 MCs</td>
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**TOTAL GRADUATION REQUIREMENTS = 160 MCs**

*A-level students with A-level Math are exempted MA1301 and can take CS1231*
# Bachelor of Computing

## Information Systems

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| 20 MCs | 20 MCs | 20 MCs | 20 MCs | 20 MCs | 20 MCs | 20 MCs | 0 MCs |

TOTAL GRADUATION REQUIREMENTS = 160 MCs - 20 MCs from Unrestricted Elective

Poly intake

For reference only
## Programme Electives

### Fintech & healthcare
- IS4228 Information Technologies in Financial Services
- IS4302 Blockchain and Distributed Ledger Technologies
- IS4303 IT-Mediated Financial Solutions and Platforms
- IS4250 IT-enabled Healthcare Solutioning

### Consulting
- IS3221 ERP Systems with Analytics Solutions
- IS4204 IT Governance
- IS4234 Compliance and Regulation Technology
- IS4243 Information Systems Consulting
- IS5002 Digital Transformation

### Agile S/W engineering & UI/UX
- IS3261 Mobile Apps Development for Enterprise
- IS4301 Agile IT with DevOps
- IS3240 Digital Platform Strategy and Architecture
- CS3240 Interaction Design
- IS4261 Designing IT-enabled Business Innovations

### Entrepreneurship
- IS3150 Digital Media Marketing
- IS3251 Principles of Technology Entrepreneurship
- IS4241 Social Media Network Analysis
- IS5128 Digital Innovation

### AI & IoT
- IS4242 Intelligent Systems and Techniques
- IS4152 Affective Computing
- IS4151 Pervasive Technology Solutions and Development

### Security
- CS2107 Introduction to Information Security
- IS4101 Legal Aspects of Information Security
- IS4231 Information Security Management
- IS4233 Legal Aspects of Information Technology

* Coding required; ^ statistics required
Bachelor of Computing

Information Systems

Financial Technology Specialisation
Pursue niche jobs in the fintech industry upon graduation

**Compulsory**
- IS4228 Information Technologies in Financial Services
- IS4302 Blockchain and Distributed Ledger Technologies
- IS4303 IT-Mediated Financial Solutions and Platforms

**FinTech Electives (Select any 3)**
- IS3221 ERP Systems with Analytics Solutions
- IS4231 Information Security Management
- IS4233 Legal Aspects of Information Technology
- IS4234 Compliance and Regulatory Technology
- IS4242 Intelligent Systems and Techniques
- IS4301 Agile IT with DevOps
Bachelor of Computing

Information Systems

Digital Innovation Specialisation
Take on career paths such as becoming a digital strategist or an IT start-up entrepreneur

Compulsory
- IS3240 Digital Platform Strategy and Architecture
- IS3251 Principles of Technology Entrepreneurship
- IS4261 Designing IT-Enabled Business Innovations

Digital Innovation Electives *(Select any 3)*
- IS3150 Digital Media Marketing
- IS3261 Mobile Apps Development for Enterprise
- IS4204 IT Governance
- IS4233 Legal Aspects of Information Technology
- IS4242 Intelligent Systems and Techniques
- IS4243 Information Systems Consulting
Information Systems

E-Commerce Specialisation
Pursue a business-oriented career and niche IT jobs like an e-commerce start-up entrepreneur or a digital strategist

**Compulsory**
- IS3150 Digital Media Marketing
- IS4151 Pervasive Technology Solutions and Development
- IS4261 Designing IT-Enabled Business Innovations

**E-commerce Electives (Select any 3)**
- IS3240 Digital Platform Strategy and Architecture
- IS3261 Mobile Apps Development for Enterprise
- IS4228 Information Technologies in Financial Services
- IS4231 Information Security Management
- IS4242 Intelligent Systems and Techniques
- IS4243 Information Systems Consulting
Bachelor of Science (Business Analytics)
Develop expertise

- Specialisation: Financial Analytics, Marketing Analytics
- Industry Capstone Project Internship (IIP, ATAP, NOC)
  Analytics Research Dissertation
  - BT4103, IS4010, BT4101

Develop Competency

- Analytical Modeling and Techniques
  - BT1101, BT2101, BT3102
- Data Visualization & Systems Development
  - BT2102, BT3103
- Professionalism and Communication
  - IS1103, IS2101, IS3103

Foundation

- Data + Statistics
  - Faculty of Science
  - MA1311, MA1521, ST2334
- Computing
  - Computer Science
  - CS1010S, CS2030, CS2040
- Business
  - Business School & Economics Dept
  - EC1301, MKT1705X

General Education

Student Exchange

Second Major/Minor

Double Degree
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TOTAL GRADUATION REQUIREMENTS = 160 MCs

ULR = University Level Requirements
PE = Programme Electives
UE = Unrestricted Electives

For reference only
# Bachelor of Science in Business Analytics

## Poly Intake (With module exemptions)

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**BT4103** (Capstone, 8 MCs)  
**IS3103**  
**IS4010** (Internship, 12 MCs)  

<table>
<thead>
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<td><strong>PE2</strong></td>
<td><strong>UE3</strong></td>
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<td><strong>PE6</strong></td>
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**PE5**  

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<th>Year 4</th>
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<td>S1</td>
<td>S2</td>
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**TOTAL GRADUATION REQUIREMENTS = 160 MCs - 20 MCs from Unrestricted Elective**

- **ULR = University Level Requirements**
- **PE = Programme Electives**
- **UE = Unrestricted Electives**

*For reference only*
Programme Electives (PE)

- Choose 6 modules to make up 24 MCs from Lists A, B and C, with at least 2 modules each from Lists A and B.
- 5 of 6 modules must be at level-4000.

List A (Business Applications)

List B (Analytics Methods)

List C (Technology Implementation)
Programme Electives

Finance
BT4013 Analytics for Capital Market Trading and Investment^ 
BT4016 Risk Analytics for Financial Services^ 
BT4012 Fraud Analytics^ 
IS4228 Information Technologies in Financial Services^ 
IS4302 Blockchain and Distributed Ledger Technologies* 
ST4245 Statistical Methods for Finance^ 

Marketing
BT4211 Data-Driven Marketing*^ 
BT4212 Search Engine Optimization and Analytics*^ 
BT4015 Geospatial Analytics^ 
IS3240 Digital Platform Strategy and Architecture* 
IS4241 Social Media Network Analysis^ 
DBA3712 Dynamic Pricing and Revenue Management^ 
MKT4812 Market Analytics^ 

AI
BT4014 Analytics Driven Design of Adaptive Systems*^ 
BT4240 Machine Learning for Predictive Data Analytics^ 
CS3244 Machine Learning* 

Big data
BT4221 Big Data Techniques and Technologies^* 
BT4222 Mining Web Data for Business Insights^* 

Consulting
IS4250 IT-enabled Healthcare Solutioning 
IS3221 ERP Systems with Analytics Solutions^ 
IE3120 Manufacturing Logistics^ 
DBA4811 Analytical Tools for Consulting^ 

Analytical Modeling
IE2110 Operations Research I or DBA3701 Introduction to 
Optimisation^ 
DBA3803 Predictive Analytics in Business^ 
BSE4711 Econometrics for Business II^ 
IE4210 Operations Research II^ 
ST3131 Regression Analysis^ 

* Coding required; ^ statistics required
Bachelor of Science

Business Analytics

Financial Analytics Specialisation
Pursue niche jobs in Investment, Banking, Finance, Trading, Mergers and Acquisitions, and Fund Management

Compulsory modules (do all 3 modules):
- BT4013 Analytics for Capital Market Trading and Investment List A
- BT4016 Risk Analytics for Financial Services List A
- IS4228 Information Technologies in Financial Services List C

Elective modules (select any 3 modules):
- BT4012 Fraud Analytics List B
- BT4221 Big Data Techniques and Technologies List B
- BT4222 Mining Web Data for Business Insights List B
- IS4302 Blockchain and Distributed Ledger Technologies List C
- IS4234 Compliance and Regulatory Technology List C
Bachelor of Science

Business Analytics

Marketing Analytics Specialisation
Take on career paths in a myriad of industries, from marketing, customer relationship, market research, to investment and product development

Compulsory modules (do all 3 modules):
BT4211 Data-Driven Marketing List A
BT4212 Search Engine Optimization and Analytics List A
BT4222 Mining Web Data for Business Insights List B

Elective modules (select any 3 modules):
BT4014 Analytics Driven Design of Adaptive Systems List C
BT4015 Geospatial Analytics List B
BT4221 Big Data Techniques and Technologies List B
IS3240 Digital Platform Strategy and Architecture List A
IS4241 Social Media Network Analysis List B
Internships and Undergraduate Research Programmes
Internship

- 12-MC, 24-week compulsory internship requirement
  - May be substituted with 12-MC FYP dissertation
- Taken after 80MCs and some core module prerequisites
- BZA/IS students can take IIP, ATAP, or NOC to fulfill internship requirement (but not two 12-week SIP internships)
- Can pursue more than one internship (additional ones counted as unrestricted elective MCs)

- Recommended to do internship after completing industry capstone project
- Not advisable to plan IIP/ATAP internship right after the semester that you will be overseas on SEP
- Not advisable to do internship in the final graduating semester
IS4010 Industry Internship Programme (IIP)

- **Paired** Internship Programme for BZA/IS students
  - Two students work in a team (can be cross-programme)
  - January-June or May-October (24 weeks)
  - *Letter graded* instead of Completed Satisfactory/ Completed Unsatisfactory (CS/CU)
  - Co-defined learning objectives with both your supervisors
  - Highly structured project(s) with meaningful and challenging tasks to improve your employability

- Collaborative and Interpersonal Communication Skills
  - Identify suitable IIP partner from group projects or capstone project
  - Internship interview and during internship

- Professional Ethics (before and during internship)
Some IIP Sponsoring Organizations (as of 2019/20 Semester 2)
Co-Operative Education Programme

- Integrates academic studies with relevant work experience
- Students complete multiple industrial attachment stints alternating with regular academic semesters over their 4-year candidature at NUS.
- Students can expect to work at an attached company for three internships (about 64 weeks or around 16 months).

Benefits of the programme
- Have a solid hands-on industry experience even before students graduate,
- Apply the knowledge students learnt in classes immediately,
- Gain deep knowledge on how a company operates in the domain of study,
- Establish an early and enduring relation with an attached company,
- Get a head start for future career, and
- Graduate in four years with careful planning.
Co-Operative Education Programme (A-level intake)

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<th>Year 1</th>
<th>Year 2</th>
<th>Year 3</th>
<th>Year 4</th>
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<tr>
<td>Sem 1  (early-Aug–mid-Dec)</td>
<td>Sem 1</td>
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<td>NUS</td>
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<tr>
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<td>1st internship (~ 12 weeks)</td>
<td>2nd internship (~ 24 weeks)</td>
<td>3rd internship (~ 28 weeks)</td>
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<td>NUS</td>
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NUS Year 1 Year 2 Year 3 Year 4
1. The poly-intake students (with no more than 20MCs exemption) need to complete about 148MCs to graduate.
2. Poly-intake with 28MCs exemption (20MCs + 2 other core modules) need to complete about 140MCs to graduate.
Undergraduate Research Programmes

- **Final Year Project (FYP) Dissertation (BT4101/CP4101)** – 2 semesters; 12MC
  - Students who aim for Honours (Highest Distinction) must pass the Dissertation
  - Condition "CAP of 4.00 or higher after completing at least 70% (112 MCs) of the MC requirement for the degree programme" must be satisfied before students can commence BT4101/CP4101.
  - FYP project selection process takes place one semester ahead of the semester in which the students commence BT4101/CP4101.
  - Doing FYP as well as internship? Yes, possible.

- **Computing Project (CP4106)** – 2 semesters; 8MC
  - Open to all computing students who have completed at least 112 MCs.
  - Students who are doing / plan to complete a Final Year Project (BT4101, CP4101, or any Integrated Honours Thesis/Project/Dissertation module) are not eligible to take CP4106

- **Independent Project (CP3106)** – 1 semester; 4MC

🔗 **Pursue a Masters or Ph.D.?**
🔗 **Undergraduate Research Assistant Opportunities Available**
Question and Answer

(faculty members and current students)