The Highlight of the Curriculum Updates for the International Undergraduate Program in Computer Science/Information Technology

Faculty of Computer Science, Universitas Indonesia

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In this document, we identify the updates in the 2020 curriculum, and describe the recommendations that are advised to be followed by the students of cohort 2019 and before for transitioning to the new curriculum.

The curriculum 2020 breakdown

The following is the summary of the curriculum 2020 breakdown, please also refer to the latest curriculum handbook for the syllabus and prerequisites of each course. Note: the students who are transferring to ANU and UoB should complete the term 5 at the respective partner universities.

Term 1			Term 2		
Course Code	**Course Name**	**SKS**	**Course Code**	**Course Name**	**SKS**
CSGE601012	Calculus 1	3	CSGE601021	Programming Foundations 2	4
CSGE601010	Discrete Mathematics 1	3	CSGE601011	Discrete Mathematics 2	3
CSGE601020	Programming Foundations 1	4	CSCM601252	Introduction to Computer Organization	3
CSCM601150	Introduction to Digital Systems	4	CSCM601213	Calculus 2	3
CSGE602012	Linear Algebra	3	CSGE602040	Data Structures & Algorithms	4
Total		**17**	**Total**		**17**

Term 3			Term 4		
Course Code	**Course Name**	**SKS**	**Course Code**	**Course Name**	**SKS**
CSGE602022	Platform-Based Development	4	CSGE603130	Introduction to Artificial Intelligence & Data Science	4
CSGE602070	Databases	4	CSCM603154	Computer Networks	4

CSGE602013	Statistics & Probability	3	CSCM602223	Advanced Programming	4
CSCM602055	Operating Systems	4	CSCM603125	Software Engineering	3
CSCM602241	Automata & Theory of Languages	4	CSCM603142	Algorithms Design & Analysis	4
Total		**19**	**Total**		**19**

	Term 5			Term 6 - 8	
Course Code	**Course Name**	**SKS**	**Course Code**	**Course Name**	**SKS**
CSGE602091	Scientific Writing & Research Methodology	3		Courses (Overseas Study)	54
CSGE602024	Human-Computer Interaction	3			
CSCM603117	Numerical Analysis	3			
CSCM603228	Software Engineering Projects	6			
CSGE614093	Computers & Society	3			
Total		**18**	**Total**		**54**

List of the changes in the new curriculum

The students should be aware to some changes in the new curriculum:
1. Physics (UIST601111), English (UIGE600003) and System Programming (CSCM603127), which were listed as the mandatory courses in the previous curriculum, are not mandatory in the new curriculum.
2. Web Design & Programming (CSGE602022, 3sks) is updated to a Platform-Based Development (CSGE602022, 4 sks).
3. Human-Computer Interaction (CSGE602024), which was not mandatory, is currently listed as a mandatory course.
4. The students are now required to take at least one of equivalent courses for the final project at the partner university as required by Universitas Indonesia.

Transition Guidelines for the cohort of 2019 and 2018

Basically, **all students of the cohort 2019 and before should follow the latest curriculum** so that the final/graduation assessment for the cohort 2019 and 2018 will refer to the new curriculum.

As of the cohort 2019, the students can directly switch to the new curriculum in their fourth and fifth terms with some notes as follows:

1. Web Design & Programming (CSGE602022, 3 sks) is considered to be equivalent to Platform-Based Development (CSGE602022, 4 sks). If the students have passed Web Design & Programming (CSGE602022, 3 sks), they get 3 sks and they are not required to take the Platform-Based Development (CSGE602022, 4 sks). Otherwise, they should take Platform-Based Development.
2. The students who have not passed Physics or English are not required to retake these courses.
3. The students who have not passed the System Programming can either retake System Programming or take Human Computer Interaction (CSGE602024).
4. Other than taking the recommended courses at Universitas Indonesia in their fourth and fifth terms, they are also **required** to take at least one of the courses that are equivalent to the **final project** at the partner universities.

As of the cohort 2018, because of some changes in the new curriculum, we make the following rules and exceptions:
1. Web Design & Programming (CSGE602022, 3 sks) can be considered to be equivalent to Platform-Based Development (CSGE602022, 4 sks) with the same rule as the 2019 cohort.
2. Intelligent Systems (CSCM603130, 4 sks) and Data Science (CSCM603234) are considered to be equivalent to Introduction to Artificial Intelligence & Data Science (CSGE603130, 4 sks).
3. For the cohort 2018, the students **are not required** to take Human-Computer Interaction (CSGE602024) **if they have passed** the System Programming (CSCM603127) course. If they have not passed System Programming (CSCM603127), they can either retake System Programming or take Human-Computer Interaction (CSGE602024). These courses can also be taken at the partner institution.
4. The students who have not passed Physics or English are not required to retake these courses.
5. The students who have not passed the System Programming can either retake System Programming or take Human Computer Interaction (CSGE602024).
6. The students of the cohort 2018 are also **required** to take at least a course that is equivalent to the **final project** at the partner universities.

Final Project Requirement

As described in the previous section, the cohort of 2018 and 2019 are **required** to take at least a course that is considered to be equivalent to the **final project** at the partner universities. The courses that can be considered to be equivalent to the final project are the courses where the students are required to write a technical report.
a. For the 2+2 schemes (ANU and UoB) where the final projects are mandatory, the final projects in the respective universities (i.e. Advanced Computing (Research) Project at ANU, or Computer Science Project at UoB) are considered to be equivalent to the final project at UI.
b. For the 2.5+1.5 schemes (UQ, Deakin Univ. and RMIT) where the final projects may not be mandatory at the partner university, the students may submit the technical reports from some courses. The students **may suggest** a technical report of a course

to be considered for this requirement by informing us the course name/code and (if available) sending a sample of the report.

Note: currently, we have assessed some courses and decided that the reports of following courses can be used to fulfill the final project requirement at UI:
- the portfolio of DECO3801 at UQ
- technical report of COSC3000 at UQ

Recommended Course plan for the cohort of 2019

For the students of the cohort 2019, we recommend to take the following courses in their fourth and fifth terms. We assume that the students have acquired at least 53 sks from their previous terms.

Term 4

CSCM603142	Algorithms Design & Analysis	4
CSCM602223	Advanced Programming	4
CSGE603130	Introduction to Artificial Intelligence & Data Science	4
CSCM603154	Computer Networks	4
CSCM603125	Software Engineering	3

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Term 5

CSGE602091	Scientific Writing & Research Methodology	3
CSCM603117	Numerical Analysis	3
CSCM603228	Software Engineering Projects	6
CSGE614093	Computers & Society	3
CSGE602024	Human-Computer Interaction	3

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