

NATIONAL UNIVERSITY OF SINGAPORE



This is to certify that

TIAN FANG

**having fulfilled the requirements prescribed
by the University was conferred the degree of**

**BACHELOR OF COMPUTING
(COMPUTER SCIENCE)
WITH HONOURS (HIGHEST DISTINCTION)**

on

30 June 2023



A handwritten signature in black ink, appearing to read "M. S. J. H. H.", is written above the title.

Chair, Board of Trustees

A handwritten signature in black ink, appearing to read "S. H. H.", is written above the title.

President



NATIONAL UNIVERSITY of SINGAPORE

OFFICIAL TRANSCRIPT

NAME: TIAN FANG **STUDENT NO:** A0194568L **DATE OF BIRTH:** 01/06/2001 **DATE ISSUED:** 02/07/2023

DEGREE CONFERRED: BACHELOR OF COMPUTING (COMPUTER SCIENCE) WITH HONOURS (HIGHEST DISTINCTION)

CUMULATIVE AVERAGE POINT: 4.84

CUMULATIVE MODULAR CREDITS: 151.00

ADMISSION DATE: 05/08/2019

CONFERMENT DATE: 30/06/2023

SPECIALISATION: MULTIMEDIA MODELLING

DEGREE CONFERRED: BACHELOR OF SCIENCE WITH MERIT

CUMULATIVE AVERAGE POINT: 4.91

CUMULATIVE MODULAR CREDITS: 93.00

ADMISSION DATE: 05/08/2019

CONFERMENT DATE: 30/06/2023

MAJOR: APPLIED MATHEMATICS

COMPLETED THE UNIVERSITY TOWN COLLEGE PROGRAMME AT THE TEMBUSU COLLEGE

COMPLETED A DOUBLE DEGREE PROGRAMME

<u>MODULE</u>	<u>GRADE</u>	<u>CREDITS</u>
ACADEMIC YEAR 2019/2020 SEMESTER 1		
CS1101S	PROGRAMMING METHODOLOGY	A+ 4.00
CS1231S	DISCRETE STRUCTURES	A 4.00
ES1103	ENGLISH FOR ACADEMIC PURPOSES	S 4.00
MA1521	CALCULUS FOR COMPUTING	A+ 4.00

<u>MODULE</u>	<u>GRADE</u>	<u>CREDITS</u>
UTC1102G	JUNIOR SEMINAR: PROOF: WHAT'S TRUTH GOT TO DO WITH IT?	CS 4.00

BACHELOR OF COMPUTING (COMPUTER SCIENCE)
CUMULATIVE AVERAGE POINT : 5.00

ACADEMIC YEAR 2019/2020 SEMESTER 2

CS2030	PROGRAMMING METHODOLOGY II	A 4.00
CS2040S	DATA STRUCTURES AND ALGORITHMS	A 4.00
ES2660	COMMUNICATING IN THE INFORMATION AGE	S 4.00
GER1000	QUANTITATIVE REASONING	A 4.00
IS1103	IS INNOVATIONS IN ORGANISATIONS AND SOCIETY	S 4.00
MA1101R	LINEAR ALGEBRA I	A+ 4.00
UTS2109	ASIA NOW! THE ARCHAEOLOGY OF THE FUTURE CITY	S 4.00
UTW1001D	SELF, SOCIETY, AND THE DIGITAL TSUNAMI ERA	S 4.00

BACHELOR OF COMPUTING (COMPUTER SCIENCE)
CUMULATIVE AVERAGE POINT : 5.00

ACADEMIC YEAR 2020/2021 SEMESTER 1

CP2106	INDEPENDENT SOFTWARE DEVELOPMENT PROJECT (ORBITAL)	CS 4.00
CS1010R	PROGRAMMING METHODOLOGY	A+ 1.00
CS2101	EFFECTIVE COMMUNICATION FOR COMPUTING PROFESSIONALS	S 4.00
CS2103T	SOFTWARE ENGINEERING	A- 4.00
CS3230	DESIGN AND ANALYSIS OF ALGORITHMS	A+ 4.00
MA2104	MULTIVARIABLE CALCULUS	A 4.00
MA2108	MATHEMATICAL ANALYSIS I	A 4.00
MA2202S	ALGEBRA I (S)	B+ 5.00
MA2213	NUMERICAL ANALYSIS I	A+ 4.00



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<u>MODULE</u>		<u>GRADE</u>	<u>CREDITS</u>	<u>MODULE</u>	<u>GRADE</u>	<u>CREDITS</u>
UTC2107	SENIOR SEMINAR: NEGOTIATING IN A COMPLEX WORLD	S	4.00			
BACHELOR OF COMPUTING (COMPUTER SCIENCE)				BACHELOR OF COMPUTING (COMPUTER SCIENCE)		
CUMULATIVE AVERAGE POINT : 4.95				CUMULATIVE AVERAGE POINT : 4.81		
BACHELOR OF SCIENCE				BACHELOR OF SCIENCE		
CUMULATIVE AVERAGE POINT : 4.88				CUMULATIVE AVERAGE POINT : 4.92		
ACADEMIC YEAR 2020/2021 SEMESTER 2				ACADEMIC YEAR 2021/2022 SEMESTER 2		
CS2100	COMPUTER ORGANISATION	A	4.00	CS2102	DATABASE SYSTEMS	A 4.00
CS3217	SOFTWARE ENGINEERING ON MODERN APPLICATION PLATFORMS	A-	5.00	CS2105	INTRODUCTION TO COMPUTER NETWORKS	A 4.00
CS3243	INTRODUCTION TO ARTIFICIAL INTELLIGENCE	A-	4.00	CS2106	INTRODUCTION TO OPERATING SYSTEMS	A- 4.00
MA2101	LINEAR ALGEBRA II	A	4.00	CS3247	GAME DEVELOPMENT	A- 4.00
MA2216	PROBABILITY	A+	4.00	CS4248	NATURAL LANGUAGE PROCESSING	A+ 4.00
MA3252	LINEAR AND NETWORK OPTIMISATION	A+	4.00	ST2132	MATHEMATICAL STATISTICS	A- 4.00
UTW2001P	SCIENCE FICTION AND EMPIRE	A	4.00	BACHELOR OF COMPUTING (COMPUTER SCIENCE)		
BACHELOR OF COMPUTING (COMPUTER SCIENCE)				CUMULATIVE AVERAGE POINT : 4.79		
CUMULATIVE AVERAGE POINT : 4.88				BACHELOR OF SCIENCE		
BACHELOR OF SCIENCE				CUMULATIVE AVERAGE POINT : 4.92		
CUMULATIVE AVERAGE POINT : 4.91				ACADEMIC YEAR 2022/2023 SEMESTER 1		
DEAN'S LIST				CP4101	B.COMP. DISSERTATION	IP 12.00
ACADEMIC YEAR 2021/2022 SEMESTER 1				CS4225	BIG DATA SYSTEMS FOR DATA SCIENCE	A 4.00
CS3216	SOFTWARE PRODUCT ENGINEERING FOR DIGITAL MARKETS	B+	5.00	MA4230	MATRIX COMPUTATION	A- 4.00
CS3241	COMPUTER GRAPHICS	A+	4.00	MA4270	DATA MODELLING AND COMPUTATION	A 4.00
CS3244	MACHINE LEARNING	A+	4.00	BACHELOR OF COMPUTING (COMPUTER SCIENCE)		
CS4243	COMPUTER VISION AND PATTERN RECOGNITION	A-	4.00	CUMULATIVE AVERAGE POINT : 4.80		
MA3236	NON-LINEAR PROGRAMMING	A+	4.00	BACHELOR OF SCIENCE		



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MODULE

GRADE

CREDITS

CUMULATIVE AVERAGE POINT : 4.90

ACADEMIC YEAR 2022/2023 SEMESTER 2

CM1102	CHEMISTRY - THE CENTRAL SCIENCE	A	4.00
CP4101	B.COMP. DISSERTATION	A+	12.00
PC1101	FRONTIERS OF PHYSICS	A+	4.00
ST3131	REGRESSION ANALYSIS	A	4.00

BACHELOR OF COMPUTING (COMPUTER SCIENCE)

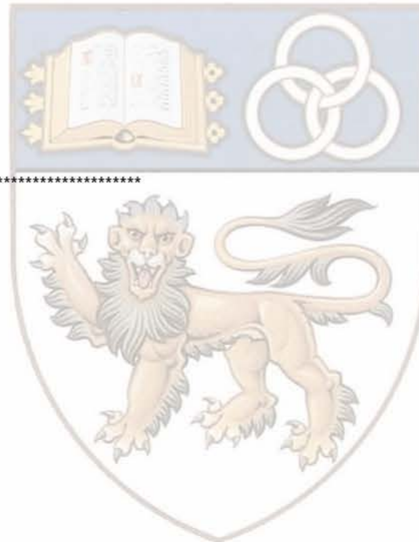
CUMULATIVE AVERAGE POINT : 4.84

DEAN'S LIST

BACHELOR OF SCIENCE

CUMULATIVE AVERAGE POINT : 4.91

*****END OF TRANSCRIPT*****



NATIONAL UNIVERSITY OF SINGAPORE (NUS)
Registrar's Office, University Hall (Lee Kong Chian Wing),
#UHL-04-01, 21 Lower Kent Ridge Road, Singapore 119077
Telephone : (65) 65162304
Website : <https://www.nus.edu.sg/registrar>

TRANSCRIPT INFORMATION

Applicable to undergraduate and graduate programmes (unless specified otherwise)

GRADE LEGEND

Grade	Grade Point	Additional Grading Options
A+, A	5.00	S Satisfactory
A-	4.50	U Unsatisfactory
B+	4.00	CS Completed (Satisfactory)
B	3.50	CU Completed (Unsatisfactory)
B-	3.00	IC Incomplete
C+	2.50	IP In Progress
C	2.00	AUD Audit
D+	1.50	EXE Exempted
D	1.00	W Withdrawn
F	0.00	WU Withdrawal from University

SCHOOL OF BUSINESS – MASTER'S DEGREE PROGRAMME MODULES

Grade	Grade Point
DT (Distinction)	5.00
M (Merit)	4.00
Pass	3.00
Fail	0.00

FACULTY OF DENTISTRY / YONG LOO LIN SCHOOL OF MEDICINE – BACHELOR'S DEGREE PROGRAMME MODULES

Grade	Descriptor	Additional Grading Options
A+	Distinction	DT Distinction
A		M Merit
A-		P Pass
B+		IC Incomplete
B		IP In Progress
B-		W Withdrawn
C+		WU Withdrawal from University
C		
F		

SUPPLEMENTARY EXAMINATION AND RE-EXAMINATION

Students who sit for Supplementary Examination or Re-examination (if applicable) are awarded the grade appropriate to the marks they obtain.

MEDIUM OF INSTRUCTION

The medium of instruction used in the University is English, unless specified otherwise.

CUMULATIVE AVERAGE POINT (CAP)

The Cumulative Average Point (CAP) was introduced for students admitted from the Academic Year (AY) 1998/1999 onwards to track the progress of students under the Modular System. It is the weighted average grade point of all modules taken by the student.

MODULAR CREDIT (MC)

A modular credit (MC) is a unit of the effort, stated in terms of time, expected of a typical student in managing his/her workload. 1 MC is equivalent to 2.5 hours of study and preparation per week. Thus, a 4-MC module would require 10 hours of work a week, including lectures, tutorials, laboratory sessions, assignments, and independent or group study, over 13 Instructional Weeks in a semester.

GRADE-FREE SCHEME (GFS)

The Grade-free Scheme (GFS), in the form of 32 MCs of Satisfactory/Unsatisfactory (S/U) option, was introduced for **undergraduate** students admitted from AY2014/2015 onwards, to provide a supportive and enabling environment for them to make a successful transition into the academic and social aspects of university life.

It was enhanced from a grade-free first semester to a grade-free first year for undergraduate students admitted from AY2016/2017 onwards.

At the end of a semester, students may choose to retain the letter grade or to exercise the S/U option on a module, in which case the letter grade will not be shown on the transcript nor computed towards the CAP. An 'S' grade is assigned if students receive a C grade or above while a 'U' grade is assigned if the grade obtained is D+, D or F. Students will receive credits towards the degree only if they attain an 'S' grade.

LEAVE OF ABSENCE

Only leave of absence of one semester or longer is recorded in the transcript.

DEGREE CLASSIFICATION

The criteria for degree classification applicable to students admitted from AY2012/2013 onwards are as follows:

Honours Degree Classification ⁽ⁱ⁾	Criteria
Honours (Highest Distinction)	CAP 4.50 and above ⁽ⁱⁱ⁾
Honours (Distinction)	CAP 4.00 – 4.49
Honours (Merit)	CAP 3.50 – 3.99
Honours	CAP 3.00 – 3.49
Pass	CAP 2.00 – 2.99
Bachelor's Degree Classification ⁽ⁱⁱⁱ⁾	Criteria
Pass with Merit	CAP 3.00 and above
Pass	CAP 2.00 – 2.99

(i) This refers to 160-MC degree programmes.

(ii) Particular Faculties/Schools may stipulate other requirements.

(iii) This refers to 120-MC degree programmes.

This transcript shows the latest information. For information on earlier grade legends, please visit:

<https://www.nus.edu.sg/registrar/student-records/transcripts/official-transcripts> .

FACULTY OF LAW – DEGREE CLASSIFICATION

(a) The criteria for degree classification applicable to students conferred their Bachelor's of Laws (LLB) degrees from 30 June 2016 are as follows:

Degree Classification	Criteria
First Class Honours*	Obtained a Cumulative Weighted Numerical Average for all modules taken at NUS that is equivalent to a grade of A- or better, or finished in the top 10% of the graduating class.
Second Class (Upper Division) Honours*	Obtained a Cumulative Weighted Numerical Average for all modules taken at NUS that is equivalent to a grade of B or better, and do not qualify for First Class Honours.
Second Class (Lower Division) Honours	Obtained a Cumulative Weighted Numerical Average for all modules taken at NUS that is equivalent to a grade of C or better, and do not qualify either for First Class or Second Class (Upper Division) Honours.
Third Class Honours	Completed the number of credits required for a LLB (Honours) degree but do not qualify for First Class, Second Class (Upper Division) or Second Class (Lower Division) Honours.

*Note: A student will not be eligible for First Class or Second Class (Upper Division) Honours if:

a) the student has failed more than 12 credits of modules at NUS (or while on an approved exchange programme); or

b) the student has taken more than 9 semesters to complete the 4-year LLB programme or 7 semesters to complete the 3-year Graduate LLB programme (excluding periods where the student has been granted a leave of absence).

(b) The criteria for degree classification applicable to students conferred their Juris Doctor (J.D.) degrees are as follows:

Degree Classification	Criteria
JD (Highest Distinction)	Obtained a Cumulative Weighted Numerical Average for all modules taken at NUS that is equivalent to a grade of A- or better.
JD (Distinction)	Obtained a Cumulative Weighted Numerical Average for all modules taken at NUS that is equivalent to a grade of B or better..
JD (Merit)	Obtained a Cumulative Weighted Numerical Average for all modules taken at NUS that is equivalent to a grade of C or better.
JD	Completed the number of credits required for a JD degree but do not qualify for HD (Highest Distinction), HD (Distinction) or JD (Merit).

CHECK FOR AUTHENTICITY:

This digital transcript has been issued by NUS and its authenticity is guaranteed only when it can be successfully accessed through the OpenCerts portal (opencerts.io) or nus.edu/e-documents.