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## MEMORANDUM

ATTENTION	Senate	DATE	June 7, 2024
FROM	Peter Hall, Chair	PAGES	1/1
	Senate Committee on Undergraduate Studies		
RE:	New Course Proposals		

## For information:

Acting under delegated authority at its meeting of June 6, 2024 SCUS approved the following curriculum revisions effective Spring 2025.

**a. Faculty of Communication, Art and Technology**1. School of Interactive Art and Technology (SCUS 24-60)

(i) New Course Proposal: IAT 238-3, Foundations for Designing Interactions

**b. Faculty of Science**1. Department of Mathematics (SCUS 24-61)

(i) New Course Proposal: MACM 476-3, Introduction to Quantum Algorithms

Senators wishing to consult a more detailed report of curriculum revisions may do so on the Senate DocuShare repository at <https://docushare.sfu.ca/dsweb/View/Collection-12682>.

**COURSE SUBJECT****NUMBER**
**COURSE TITLE LONG** — for Calendar/schedule, no more than 100 characters including spaces and punctuation

**COURSE TITLE SHORT** — for enrollment/transcript, no more than 30 characters including spaces and punctuation

**CAMPUS** where course will be normally taught:      Burnaby      Surrey      Vancouver      Great Northern Way      Off campus

**COURSE DESCRIPTION** — 50 words max. Attach a course outline. Don't include WQB or prerequisites info in this description box.

<b>REPEAT FOR CREDIT</b>	YES	NO	Total completions allowed	Within a term?	YES	NO
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**LIBRARY RESOURCES**

NOTE: Senate has approved (S.93-11) that no new course should be approved by Senate until funding has been committed for necessary library materials. Each new course proposal must be accompanied by the email that serves as proof of assessment. For more information, please visit [www.lib.sfu.ca/about/overview/collections/course-assessments](http://www.lib.sfu.ca/about/overview/collections/course-assessments).

**RATIONALE FOR INTRODUCTION OF THIS COURSE**



SCHEDULING AND ENROLLMENT INFORMATION

Effective term and year (e.g. FALL 2016) SPRING 2025

Term in which course will typically be offered [X] Spring [X] Summer [X] Fall

Other (describe) [ ]

Will this be a required or elective course in the curriculum? [ ] Required [X] Elective

What is the probable enrollment when offered? Estimate: 60

UNITS Indicate number of units: 3

Indicate no. of contact hours: 2 Lecture [ ] Seminar [ ] Tutorial 2 Lab [ ] Other; explain below

OTHER

[ ]

FACULTY

Which of your present CFL faculty have the expertise to offer this course?

Russell Taylor, Gillian Russell, Willian Odom, Ron Wakkary. Faculty members in the concentration have practices in the domain. The course is adaptable to the expertise of faculty as to outcomes for form (UX/UI, Interaction Design, Exhibition Design, etc).

WQB DESIGNATION

(attach approval from Curriculum Office)

[ ]

PREREQUISITE AND / OR COREQUISITE

Completion of 21 units including IAT 102.



**EQUIVALENT COURSES** [For more information on equivalency, see Equivalency Statements under [Information about Specific Course components.](#)]

**1. SEQUENTIAL COURSE** [is not hard coded in the student information management system (SIMS).]

Students who have taken (*place relevant course(s) in the blank below (ex: STAT 100)*) **first** may not then take this course for further credit.

**2. ONE-WAY EQUIVALENCY** [is not hard coded in SIMS.]

(*Place relevant course(s) in the blank below (ex: STAT 100)*) will be accepted in lieu of this course.

**3. TWO-WAY EQUIVALENCY** [is hard coded and enforced by SIMS.]

Students with credit for (*place relevant course(s) in the blank below (ex: STAT 100)*) may not take this course for further credit.

Does the partner academic unit agree that this is a two-way equivalency?      YES      NO

*Please also have the partner academic unit submit a course change form to update the course equivalency for their course(s).*

**4. SPECIAL TOPICS PRECLUSION STATEMENT** [is not hard coded in SIMS.]

**FEEES**

Are there any proposed student fees associated with this course other than tuition fees?      YES      NO

**COURSE – LEVEL EDUCATIONAL GOALS (OPTIONAL)**



**RESOURCES**

List any outstanding resource issues to be addressed prior to implementation: space, laboratory equipment, etc:

**OTHER IMPLICATIONS**

Final exam required            YES            NO

Criminal Record Check required            YES            NO

**OVERLAP CHECK**

Checking for overlap is the responsibility of the Associate Dean.

Each new course proposal must have confirmation of an overlap check completed prior to submission to the Faculty Curriculum Committee.

**Name of Originator**

COURSE SUBJECT NUMBER 

COURSE TITLE LONG — for Calendar/schedule, no more than 100 characters including spaces and punctuation

COURSE TITLE SHORT — for enrollment/transcript, no more than 30 characters including spaces and punctuation

CAMPUS where course will be normally taught:  Burnaby  Surrey  Vancouver  Great Northern Way  Off campus

COURSE DESCRIPTION — 50 words max. Attach a course outline. Don't include WQB or prerequisites info in this description box.

An introductory treatment of quantum computing with an emphasis on quantum algorithms. Topics include the gate model of quantum computation focusing on the design and implementation of quantum algorithms. Basic knowledge of algorithms and complexity will be an asset, but not required. No prior knowledge of physics or quantum mechanics is necessary, only a solid background in linear algebra.

REPEAT FOR CREDIT  YES  NO Total completions allowed  Within a term?  YES  NO**LIBRARY RESOURCES**

NOTE: Senate has approved (S.93-11) that no new course should be approved by Senate until funding has been committed for necessary library materials. Each new course proposal must be accompanied by the email that serves as proof of assessment. For more information, please visit [www.lib.sfu.ca/about/overview/collections/course-assessments](http://www.lib.sfu.ca/about/overview/collections/course-assessments).

**RATIONALE FOR INTRODUCTION OF THIS COURSE**

This course is being introduced in support of the Quantum Computing initiative at SFU. The MATH and CMPT departments have agreed to support an annual 4th-year undergrad course presenting fundamental ideas on quantum algorithms. Both departments have agreed on an offset schedule of offerings, (nominally alternate year) and will be accepting MACM 476 and CMPT 476 as equivalent within their degree programs.



SCHEDULING AND ENROLLMENT INFORMATION

Effective term and year (e.g. FALL 2016) Spring 2025

Term in which course will typically be offered [X] Spring [ ] Summer [ ] Fall

Other (describe) in cooperative alternation with CMPT 476

Will this be a required or elective course in the curriculum? [ ] Required [X] Elective

What is the probable enrollment when offered? Estimate: 50

UNITS Indicate number of units: 3

Indicate no. of contact hours: 3 Lecture [ ] Seminar [ ] Tutorial [ ] Lab [ ] Other; explain below

OTHER

[Empty text box for other information]

FACULTY

Which of your present CFL faculty have the expertise to offer this course?

Nadish de Silva

WQB DESIGNATION

(attach approval from Curriculum Office)

[Empty text box for WQB designation]

PREREQUISITE AND / OR COREQUISITE

MATH 232 or MATH 240, with a minimum grade of C-.



**EQUIVALENT COURSES** [For more information on equivalency, see Equivalency Statements under [Information about Specific Course components.](#)]

**1. SEQUENTIAL COURSE** [is not hard coded in the student information management system (SIMS).]

Students who have taken *(place relevant course(s) in the blank below (ex: STAT 100))* **first** may not then take this course for further credit.

**2. ONE-WAY EQUIVALENCY** [is not hard coded in SIMS.]

*(Place relevant course(s) in the blank below (ex: STAT 100))* will be accepted in lieu of this course.

**3. TWO-WAY EQUIVALENCY** [is hard coded and enforced by SIMS.]

Students with credit for *(place relevant course(s) in the blank below (ex: STAT 100))* may not take this course for further credit.

CMPT 476

Does the partner academic unit agree that this is a two-way equivalency?  YES  NO

*Please also have the partner academic unit submit a course change form to update the course equivalency for their course(s).*

**4. SPECIAL TOPICS PRECLUSION STATEMENT** [is not hard coded in SIMS.]

Students who have taken CMPT 409 in Summer 2020 and 2021 under the title "Intro to Quantum Computing" may not take this course for further credit.

**FEEES**

Are there any proposed student fees associated with this course other than tuition fees?  YES  NO

**COURSE - LEVEL EDUCATIONAL GOALS (OPTIONAL)**





**RESOURCES**

List any outstanding resource issues to be addressed prior to implementation: space, laboratory equipment, etc:

**OTHER IMPLICATIONS**

Final exam required  YES  NO

Criminal Record Check required  YES  NO

**OVERLAP CHECK**

Checking for overlap is the responsibility of the Associate Dean.

Each new course proposal must have confirmation of an overlap check completed prior to submission to the Faculty Curriculum Committee.

**Name of Originator**

D Muraki