| University of Hawai'i Code Request Form for Academic Programs | NEW OR R | EPLACE PROGRAM CODE |
|--|---|-------------------------------|
| New Program Code | Replace Program Code | Date: |
| REQUESTOR CONTACT INFORMATION | | |
| Name | Campus | |
| Title | Email | |
| Office/Dept | Phone | |
| NEW PROGRAM CODE TO CREATE | | |
| Institution | Campus | |
| Level | Effective Term | |
| Code (Max. Characters) | Description | Check if requesting new code: |
| | | See Banner form STVCOLL |
| Department (4) | | See Banner form STVDEPT |
| | | See Banner form STVDEGC |
| | | See Banner form STVMAJR |
| | | See Banner form STVMAJR |
| Minor (4) | | See Banner form STVMAJR |
| If a similar major/concentration code exists in Ba | anner, please list the code: | |
| Justification to warrant a new major/concentrat | ion code similar to an existing majo | r/concentration code: |
| | | |
| Is this major/concentration code being used the | same way at the other UH campuse | es? Yes No |
| Should this program be available for applicants t on the online application? If yes, student may select the select the online application? | • | study 🗌 Yes 🗌 No |
| RULES PERTAINING TO FINANCIAL AID | | LOAN LIMIT LEGISLATION |
| Is 50% or greater of the classes in this program c Campus? | offered at a location other than the | Home 🗌 Yes 🗌 No |
| Is this program/major/certificate financial aid eli | igible? | Yes No |
| Does this certificate qualify as a Gainful Employr | nent Program (Title IV-eligible certif | icate 🗌 Yes 🗌 No |
| program)? See <u>http://www.ifap.ed.gov/GainfulEmploymentInfo/index.html</u> | | |
| Program Length In academic years; decimals are acceptable. The length of the prog any online and/or written publication. | gram should match what is published by the camp | us in |
| Special Program Designations See Special Program Designations Code Definitions on IRAO Program Code Request webpage | □ A □ B □ N | □ P □ T □ U |
| Required Terms of Enrollment: Fall | Spring | Summer Extended |

EXISTING PROGRAM CODE TO REPLACE, IF APPLICABLE

| Program Code | Program Description | | | | | |
|--|-----------------------------|-------------------------|----------|----------|---------|------|
| Institution | Campus | | | | | |
| College | Department | | | | | |
| Level | | | | | | |
| Are current students "grandfathered" under the p | rogram code? | | | Yes | | No |
| Should the old program code be available for use | in Banner? | | | Yes | | No |
| | de will no longer be availa | able to admit or rec | ruit stu | dents. | | |
| Term (ie. Fall 2020) This will turn off the online application, recruitment (forms SAA <u>DCRV, SAAADMS, SAAS</u> UMI, SAAQUIK, and | | 1I and SRAQUIK) and a | ıdmissio | ns (effe | cts Ban | ner |
| Effective , old program co Term (ie. Fall 2020) | de will no longer be availa | able to award degre | e to sti | udents. | | |
| This will turn off the general student (effects Banner ; modules. | form SGASTDN) and academic | c history (effects Bann | er form | SHADEG | GR) Bar | nner |
| | | | | | | |

ATTACHMENTS

| BOR Approved: Sole-credential Certificate, Associate, Bachelor and Graduate Degrees, and sole credential certificates |
|---|
| BOR Meeting Minutes & Supporting Documents Curriculum |
| Chancellor Approved: Concentrations, Certificates and Associate in Technical Studies (ATS) Degree |
| Memo from Chancellor to notify Vice President for Academic Planning and Policy regarding program action. |
| Curriculum |
| CERTIFICATES ONLY: Please check one (1) statement. This certificate is a |
| BOR approved certificate. BOR Meeting/Approval Date: |
| Chancellor approved within an authorized BOR program. BOR Program: |
| Chancellor approved CO in accordance with UHCCP 5.203, Section IV.B.10. |

VERIFICATIONS

By signing below, I verify that I have reviewed and confirm the above information that is pertinent to my position.

| Registrar (Print Name) | | Financial Aid Officer (Print Name) | | For Community Colleges, verification of consultation with OVPCC Academic Affairs: Tammi Oyadomari-Chun | | |
|----------------------------------|--------------|---------------------------------------|------|---|------|--|
| Signature | Date | Signature | Date | Signature | Date | |
| ADDITIONAL COMM | MENTS | | | | | |



Date: December 23rd, 2021

To: Laura Lyons, Interim Vice Provost for Academic Excellence

Via: Aloysius Helminck, Dean, College of Natural Science

alleman

From: Rufus Willett, Chair, Department of Mathematics

Re: Undergraduate Program Modification, BS in Mathematics, Data Science Track

The faculty of the Department of Mathematics would like to introduce a new Computational Science track in the Mathematics BS.

The new track, which we aim to initiate in Fall 2022, would allow students to earn a BS in Mathematics within the Computational Science track by completing certain Mathematics and ICS courses that emphasize modeling, simulation, and differential equations-three pillars of Computational Science-while fulfilling the usual Mathematics BS requirements. These courses were selected in consultation with faculty from the Mathematics and ICS departments who have Computational Science expertise.

The rationale is to give mathematics majors the opportunity to pursue a specialized degree in an area of Mathematics that is becoming increasingly important in academia and industry. Note that the proposed Computational Science track is different from the existing Data Science trackin Mathematics, which has more of an emphasis on topics like statistics and machine learning.

APPROVED / DISAPPROVED

aura E. Lyons Laura E. Lyons

Interim Vice Provost for Academic Excellence

2/1/22 Date

2565 McCarthy Mall, Keller 401A Honolulu, Hawai'i 96822 Telephone: (808) 956-4679 Fax: (808) 956-4710 natsci.manoa.hawaii.edu An Equal Opportunity/Affirmative Action Institution

Catalog description

Mathematics BS, Computational Science track

Students must complete PHYS 170/170L and PHYS 272/272L, as well as MATH 244 or 253A, and must complete 30 credit hours in mathematics courses numbered between 300 to 479 and 10 credit hours in related ICS courses including the following:

- MATH 304, 305, 307 or 311, 321, 331, 402, 407, 411, and 414
- ICS 211, 212, and 484
- 6 credit hours in writing-intensive mathematics courses
- 12 credit hours in mathematics courses numbered above 400
- Students must also complete MATH 480 (CR/NC only) (final year)
- Only courses in which a student earns a grade of C (not C-) or better will be counted toward fulfillment of major requirements
- All mathematics majors are required to see a mathematics advisor each semester prior to the next semester registration
- Students must demonstrate an understanding of algorithms and logic, as well as precision of thinking

University of Hawai'i at Mānoa College of Natural Sciences Program Sheet 2021-2022 **Bachelor of Science (BS) in Mathematics** Computational Science Track Admissions: Open Process: Declaration Min. Total Credits: 120 (113 in core & major + 7 in electives)

| UHM General Education Core Requirements |
|--|
| Foundations |
| |
| FW ENG 100, 100A, 190, ESL 100, or AMST 111 FQ* MATH 241 or 251A |
| |
| $\Box FG (A/B/C)$ $\Box FG (A/B/C)$ |
| |
| *Note: This requirement changed in Fall 2018. If you entered the UH System prior to that, please see your college/school advisor. |
| Diversification |
| \Box DA/DH/DL |
| \Box DA/DH/DL |
| DB |
| DP PHYS 170 |
| DY PHYS 170L |
| DS |
| DS |
| * See degree, college and major requirements for courses that |
| can also fulfill these. |
| UHM Graduation Requirements |
| Focus |
| □H |
| □ E (300+) |
| □ O (300+) |
| |
| |
| |
| |
| □ W (300+) |
| □ W (300+) |
| |
| Hawaiian / Second Language |
| 1 01 |
| 1 02 |
| 2 01 |
| 2 02 |
| |
| Credit Minimums |
| • 120 total applicable |
| • 30 in residence at UHM |
| • 45 upper division (300+ level) credits |
| Grade Point Average |
| • 2.0 cumulative or higher (Note: Other GPAs may be |
| required.) |
| Good academic standing |

Degree Requirements

Bachelor of Science Requirements

- Calculus I
- Calculus II
- Chemistry I with lab
- Chemistry II with lab

Physics I with lab

Physics II with lab

Refer to major requirements for the specific courses that satisfy these requirements.

Credit Maximums

- 8 KRS activity
- 9 Directed Reading / Research
- 12 Practicum / Internship

This program sheet was prepared to provide information and does not constitute a contract. See back for major requirements. Meet regularly with your major advisor.

| Admission: Open |
|--|
| Application: NA |
| Min. major credits: $BS = 45$ (69-70 with related requirements) |
| Min. C grade (not C-) in courses |
| |
| Requirements |
| Mathematics Prerequisites Requirements (11-12 credits) |
| \square MATH 241*FQ or 251A*FQ |
| □ MATH 242 or 252A |
| □ MATH 243 or 253A |
| Related Mathematics Requirements (13 credits) |
| □ PHYS 170* ^{DP} / □ 170L* ^{DY} |
| \square PHYS 272* ^{DP} / \square 272L* ^{DY} |
| □ ICS 111 |
| Mathematics Courses (45 credits; see department for approved courses; see catalog for prerequisites) |
| □ MATH 244 or 253A |
| Students must demonstrate an understanding of algorithms and logic, as well as precision of thinking. Courses that satisfy |
| this requirement are MATH 190, 301, 304L, 305L, 407, 414; CEE 417; EE 160; ERTH 250; ICS 110C, 110D, 111, 211; |
| ME 360; PHYS 305. |
| 30 core credits in MATH 300-479 courses: |
| □ MATH 304 □ MATH 305 □ MATH 311 or 307 □ MATH 321 □ MATH 331 |
| □ MATH 402 □ MATH 407 □ MATH 411 □ MATH 414 □ |
| 10 related credits of ICS courses: |
| □ ICS 211 □ ICS 212 □ ICS 484 |
| The following requirements must be fulfilled in regards to the 43 above credits (check completed): |
| 6 credit hours in writing-intensive mathematics courses |
| □ 12 credit hours in courses numbered above 400 |
| MATH 480 (CR/NC only) (Spring only, last semester) |
| |
| |
| Additional Mathematics Restrictions |
| Only one of MATH 307 and 311 may be counted toward major requirements. |
| Mandatory advising each semester prior to registration. |
| |
| |
| Student Academic Success Center; Sinclair 301; (808) 956-5911; cnsadvis@hawaii.edu; natsci.manoa.hawaii.edu/sasc |
| Mathematics Department: Keller 401-A; (808) 956-4680; office@math.hawaii.edu; www.math.hawaii.edu |

Mathematics Undergraduate Advisor: Keller 419; (808) 956-4679

There may be exceptions to the major requirements listed above. Please schedule an advising appointment with Undergraduate Advising personnel for more detailed information.

University of Hawai'i at Mānoa – Four-Year Academic Plan 2021-2022

College of Natural Sciences

Bachelor of Science (BS) in Mathematics

| · · · · · · · · · · · · · · · · · · · | lenne | plan. Students should meet with | th an a | · · · | ution | Â | |
|---------------------------------------|-------|---|---------|-------------------|-------|----------------|-----|
| Year 1 | | Year 2 | | Year 3 | | Year 4 Fall | |
| Fall | | Fall | | Fall | | | |
| MATH 241 or 251A (FQ) | 4 | MATH 243 or 253A | 3 | MATH 331 | 3 | MATH 407 | 3 |
| ICS 111 | 4 | MATH 321 | 3 | CHEM 161 | 3 | ICS 484 | 3 |
| FW | 3 | PHYS 170 (DP) | 4 | CHEM 161L | 1 | Elective 300+ | 3 |
| FG (A/B/C) | 3 | PHYS 170L (DY) | 1 | MATH 304 | 3 | Elective 300+ | 3 |
| DA/DH/DL | 3 | HSL 101 | 3 | DS 300+ | 3 | DS | 3 |
| | | | | HSL 201 | 3 | | |
| Credits | 17 | Credits | 14 | Credits | 16 | Credits | 15 |
| Spring | | Spring | | Spring | | Spring | |
| MATH 242 or 252A | 4 | MATH 244 or 253A | 3 | MATH 300+ or 400+ | 3 | MATH 402 | 3 |
| ICS 211 | 4 | MATH 311 or 307 | 3 | MATH 411 | 3 | MATH 414 | 3 |
| DA/DH/DL | 3 | PHYS 272 | 3 | CHEM 162 | 3 | MATH 480 | 2 |
| FG (A/B/C) | 3 | PHYS 272L | 1 | CHEM 162L | 1 | DB | 3 |
| × , | | ICS 212 | 3 | MATH 305 | 3 | Elective 300+ | 1 |
| | | HSL 102 | 3 | HSL 202 | 3 | | |
| Credits | 14 | Credits | 16 | Credits | 16 | Credits | 12 |
| Summer | | Summer | | Summer | | Summer | |
| | | | | | | | |
| Credits | 0 | • | | Credits | 0 | Credits | 0 |
| Total Credits | 31 | Total Credits | 61 | Total Credits | 93 | Total Credits | 120 |

Computational Science Track

Notes:

Students must see a Mathematics advisor prior to registration to discuss their academic plan options. Students must take placement exams to be able to register for CHEM 161 and MATH 241. Students must incorporate all focus requirements into this plan. Focus designations (i.e., W, E, O, H) are CRN specific and semester specific. Minimum 45 upper division credits are required.



Math Modifications 20 messages

Cynthia Tang <cntang@hawaii.edu> To: Rufus Willett <rwillett@hawaii.edu>

Thu, Feb 3, 2022 at 2:03 PM

Pheng Xiong <pxiong@hawaii.edu>

Cc: Aloysius Helminck <helminck@hawaii.edu>, Alison R Sherwood <asherwoo@hawaii.edu>, Lynne Higa <lynnehig@hawaii.edu>, Nikki Chun <nkchun@hawaii.edu>, Ryan Yamaguchi <rtyamagu@hawaii.edu>, Diane Nakashima <dianena@hawaii.edu>, Joy N Nishida <jnishida@hawaii.edu>, Max Xiong <pxiong@hawaii.edu>, Lisa Imai <lisaakam@hawaii.edu>, Stephanie Kailiawa <stephk@hawaii.edu>, Grant Kim <grantkim@hawaii.edu>, Pear Iboshi <iboshi@hawaii.edu>, David Mongold <mongold@hawaii.edu>, Fiorella Penaloza <fpenaloz@hawaii.edu>, Megan Terawaki <megant@hawaii.edu>, Petty Bedoya <pbedoya@hawaii.edu>, Kevin Kaneshiro <kevinfk@hawaii.edu>, Alison Kanekuni <kanekuni@hawaii.edu>, Melanie Nishimura <mnishimu@hawaii.edu>, April Quinn <agoodwin@hawai.edu>

Aloha Rufus,

Attached for your appropriate attention are the copies of the approved program modifications:

Undergraduate Program Modification, BS in Mathematics, Data Science Track

New Computational Science Track in the Mathematics BS

These are your official copies.

Should you have any questions, please contact April Quinn at agoodwin@hawaii.edu (copied for your convenience).

Thank you,

Cynthia

Cynthia N. Tang

Administrative and Fiscal Support Specialist Office of the Provost University of Hawai'i at Mānoa 2500 Campus Road, Hawai'i Hall 307 Honolulu, HI 96822

(808) 956-7486 / FAX (808) 956-5136

2 attachments

NS-New Computational Science Track in the Mathematics BS.pdf

NS-Undergraduate Program Modification, BS in Mathematics, Data Science Track.pdf 527K

Rufus Willett <rufus@math.hawaii.edu>

Thu, Feb 3, 2022 at 2:57 PM

To: Cynthia Tang <cntang@hawaii.edu>, Rufus Willett <rwillett@hawaii.edu> Cc: Aloysius Helminck <helminck@hawaii.edu>, Alison R Sherwood <asherwoo@hawaii.edu>, Lynne Higa <lynnehig@hawaii.edu>, Nikki Chun <nkchun@hawaii.edu>, Ryan Yamaguchi <rtyamagu@hawaii.edu>, Diane Nakashima <dianena@hawaii.edu>, Joy N Nishida <jnishida@hawaii.edu>, Max Xiong <pxiong@hawaii.edu>, Lisa Imai <lisaakam@hawaii.edu>, Stephanie Kailiawa <steph&@hawaii.edu>, Grant Kim <grantkim@hawaii.edu>, Pearl Iboshi iboshi iboshi @hawaii.edu>, David Mongold <mongold@hawaii.edu>, Foirella Penaloza <fpenaloz@hawaii.edu>, Megan Terawaki <megant@hawaii.edu>, Patty Bedoya <pbedoya@hawaii.edu>, Kevin Kaneshiro <kevinfk@hawaii.edu>, Alison Kanekuni <kanekuni@hawaii.edu>, Melanie Nishimura <mnishimu@hawaii.edu>, April Quinn <agoodwin@hawaii.edu>

Hello Cynthia,

Thank you, and looks good: this is to acknowledge receipt.

Cheers,

Rufus

On 2/3/22 2:03 PM, Cynthia Tang wrote:

Aloha Rufus,

Attached for your appropriate attention are the copies of the approved program modifications:

New Computational Science Track in the Mathematics BS

These are your official copies.

Should you have any questions, please contact April Quinn at agoodwin@hawaii.edu (copied for your convenience).

Thank you,

Cynthia

Cynthia N. Tang

Administrative and Fiscal Support Specialist Office of the Provost University of Hawai'i at Mānoa 2500 Campus Road, Hawai'i Hall 307 Honolulu, HI 96822

(808) 956-7486 / FAX (808) 956-5136

Rufus Willett Professor and Chair, Mathematics University of Hawai'i at Mānoa Pronouns: he / him

Lynne Higa <lynnehig@hawaii.edu> Cc: "A. Sherwood_CNS" cstable April Quinn_OVPAE cstable Cc: "A. Sherwood_CNS" cstable CC: "A. Sherwood_CNS"

Aloha Max and April,

What do we need to do to establish a concentration code for this newly approved track within the BS Math degree?

The current codes are:

| Mathematics - BS (General) | MATH-BS |
|---------------------------------|---------------|
| Mathematics - BS (Data Science) | MATH -BS-DSCI |

Lynne

From: Cynthia Tang <cntang@hawaii.edu>

Sent: Thursday, February 3, 2022 2:04 PM To: Rufus Willett <rwillett@hawaii.edu>

Cc: Aloysius Helminck <helminck@hawaii.edu>; Alison R Sherwood <asherwoo@hawaii.edu>; Lynne Higa <lynnehig@hawaii.edu>; Nikki Chun <nkchun@hawaii.edu>; Ryan Yamaguchi <rtyamagu@hawaii.edu>; Diane Nakashima <dianena@hawaii.edu>; Joy N Nishida <jnishida@hawaii.edu>; Max Xiong <pxiong@hawaii.edu>; Lisa Imai Lisaakam@hawaii.edu>; Stephanie Kailiawa <stephk@hawaii.edu>; Grant Kim <grantkim@hawaii.edu>; Pearl Iboshi <iboshi <iboshi@hawaii.edu>; David Mongold
<mongold@hawaii.edu>; Fiorella Penaloza <fpenaloz@hawaii.edu>; Megan Terawaki <megant@hawaii.edu>; Patty Bedoya <pbedoya@hawaii.edu>; Kevin Kaneshiro <kevinfk@hawaii.edu>; Alison Kanekuni <kanekuni@hawaii.edu>; Melanie Nishimura <mnishimu@hawaii.edu>; April Quinn <agoodwin@hawaii.edu> Subject: Math Modifications

Aloha Rufus.

Attached for your appropriate attention are the copies of the approved program modifications:

Undergraduate Program Modification, BS in Mathematics, Data Science Track

New Computational Science Track in the Mathematics BS

These are your official copies.

Thu, Feb 10, 2022 at 12:47 PM

Should you have any questions, please contact April Quinn at agoodwin@hawaii.edu (copied for your convenience).

Thank you,

Cynthia

Cynthia N. Tang

Administrative and Fiscal Support Specialist

Office of the Provost

University of Hawai'i at Mānoa

2500 Campus Road, Hawai'i Hall 307

Honolulu, HI 96822

(808) 956-7486 / FAX (808) 956-5136

NS-New Computational Science Track in the Mathematics BS.pdf 593K

April Nozomi Quinn <agoodwin@hawaii.edu>

To: Lynne Higa <lynnehig@hawaii.edu> Cc: Max Xiong <pxiong@hawaii.edu>, "A. Sherwood_CNS" <asherwoo@hawaii.edu>

Hi Lynne, Great question! Max- do you need additional documentation or can you request the codes with this memo as back-up? Thanks! April

April Nozomi Quinn, PhD Director of Program Development and Review Office of the Vice Provost for Academic Excellence University of Hawaii at Manoa 2500 Campus Road, Hawaii Hall, 209 Honolulu, HI 96822 Office: (808) 956-4568 / Fax: (808) 956-7115 http://www.manoa.hawaii.edu

On Thu, Feb 10, 2022 at 12:47 PM Lynne Higa <lynnehig@hawaii.edu> wrote:

Aloha Max and April,

What do we need to do to establish a concentration code for this newly approved track within the BS Math degree?

The current codes are:

| Mathematics - BS (General) | MATH-BS |
|---------------------------------|---------------|
| Mathematics - BS (Data Science) | MATH -BS-DSCI |

Lynne

From: Cynthia Tang <cntang@hawaii.edu> Sent: Thursday, February 3, 2022 2:04 PM

To: Rufus Willett <rwillett@hawaii.edu>

Cc: Aloysius Helminck </br/>helminck@hawaii.edu>; Alison R Sherwood <asherwoo@hawaii.edu>; Lynne Higa </ynnehig@hawaii.edu>; Nikki Chun <nkchun@hawaii.edu>; Cc: Aldysids Herminick </rightmick@hawaii.edu>, Alson K Sherwood </rightmich@hawaii.edu>, Diane Nakashima </rightmich@hawaii.edu>, Diane Nakashima </rightmich@hawaii.edu>, Diane Nakashima </rightmich@hawaii.edu>, Diane Nakashima </rightmich@hawaii.edu>, Soy N Nishida </rightmich@hawaii.edu>, Max Xiong </rightmich@hawaii.edu>, Sicong@hawaii.edu>, Carant Kim </rightmich@hawaii.edu>; Pearl Iboshi </rightmich@hawaii.edu>; Diane Nakashima </rightmich@hawaii.edu>; Pearl Iboshi </rightmich@hawaii.edu>; David Mongold </rightmich@hawaii.edu>; Fiorella Penaloza </rightmich@hawaii.edu>; Megan Terawaki </rightmich@hawaii.edu>; Patty Bedoya </rightmich@hawaii.edu>; Kevin Kaneshiro </rightmich@hawaii.edu>; Alison Kanekuni@hawaii.edu>; Melanie Nishimura </rightmich@hawaii.edu>; April Quinn <agoodwin@hawaii.edu> Subject: Math Modifications

Aloha Rufus,

Mon, Feb 14, 2022 at 2:56 PM

| Attached for your appropriate attention are the copies of the approved program modifications: |
|---|
| Undergraduate Program Modification, BS in Mathematics, Data Science Track |
| New Computational Science Track in the Mathematics BS |
| These are your official copies. |
| Should you have any questions, please contact April Quinn at agoodwin@hawaii.edu (copied for your convenience). |
| Thank you, |
| Cynthia |
| - |
| Cynthia N. Tang |
| Administrative and Fiscal Support Specialist |
| Office of the Provost |
| University of Hawai'i at Mānoa |
| 2500 Campus Road, Hawai'i Hall 307 |
| Honolulu, HI 96822 |
| (808) 956-7486 / FAX (808) 956-5136 |
| |

Lynne Higa <lynnehig@hawaii.edu>

Tue, Feb 22, 2022 at 5:39 PM

Co: Alison R Sherwood <asherwoo@hawaii.edu>, April Nozomi Quinn <agoodwin@hawaii.edu>, Rufus Willett_MATH <rufus@math.hawaii.edu>

Hi Max,

Please let me know if there is anything I can do to assist with obtaining the concentration code for the new Computational Science track. I was thinking that MATH-BS-CSCI would be in keeping with the Data Science Track, unless it is problematic to use CSCI (which is also known as the Computer Science major).

Lynne

From: April Nozomi Quinn <agoodwin@hawaii.edu> Sent: Monday, February 14, 2022 2:56 PM To: Lynne Higa <lynnehig@hawaii.edu> Cc: Max Xiong <pxiong@hawaii.edu>; A. Sherwood_CNS <asherwoo@hawaii.edu> Subject: Re: FW: Math Modifications

Hi Lynne,

Great question!

Max- do you need additional documentation or can you request the codes with this memo as back-up?

Thanks!

April

April Nozomi Quinn, PhD

Director of Program Development and Review

Office of the Vice Provost for Academic Excellence

University of Hawaii at Manoa

2500 Campus Road, Hawaii Hall, 209

Honolulu, HI 96822

Office: (808) 956-4568 / Fax: (808) 956-7115

http://www.manoa.hawaii.edu

On Thu, Feb 10, 2022 at 12:47 PM Lynne Higa <lynnehig@hawaii.edu> wrote:

Aloha Max and April,

What do we need to do to establish a concentration code for this newly approved track within the BS Math degree?

The current codes are:

| I | Mathematics - BS (General) | MATH-BS |
|---|---------------------------------|---------------|
| | Mathematics - BS (Data Science) | MATH -BS-DSCI |

Lynne

From: Cynthia Tang <cntang@hawaii.edu> Sent: Thursday, February 3, 2022 2:04 PM

To: Rufus Willett <rwillett@hawaii.edu>

Cc: Aloysius Helminck <helminck@hawaii.edu>; Alison R Sherwood <asherwoo@hawaii.edu>; Lynne Higa <lynnehig@hawaii.edu>; Nikki Chun <nkchun@hawaii.edu>; Ryan Yamaguchi <rtyamagu@hawaii.edu>; Diane Nakashima <dianena@hawaii.edu>; Joy N Nishida <jnishida@hawaii.edu>; Max Xiong <pxiong@hawaii.edu>; Lisa Imai <lisaakam@hawaii.edu>; Stephanie Kailiawa <stephk@hawaii.edu>; Grant Kim <grantkim@hawaii.edu>; Pearl Iboshi <iboshi@hawaii.edu>; David Mongold <mongold@hawaii.edu>; Fiorella Penaloza <fpenaloz@hawaii.edu>; Megan Terawaki <megant@hawaii.edu>; Patty Bedoya <pbedoya@hawaii.edu>; Kevin Kaneshiro <kevinfk@hawaii.edu>; Alison Kanekuni <kanekuni@hawaii.edu>; Melanie Nishimura <mnishimu@hawaii.edu>; April Quinn <agoodwin@hawaii.edu> Subject: Math Modifications

Aloha Rufus,

Attached for your appropriate attention are the copies of the approved program modifications:

Undergraduate Program Modification, BS in Mathematics, Data Science Track

New Computational Science Track in the Mathematics BS

These are your official copies.

Should you have any questions, please contact April Quinn at agoodwin@hawaii.edu (copied for your convenience).

Thank you,

Cynthia

Cynthia N. Tang

Administrative and Fiscal Support Specialist

Office of the Provost

University of Hawai'i at Mānoa

2500 Campus Road, Hawai'i Hall 307

Honolulu, HI 96822

(808) 956-7486 / FAX (808) 956-5136

Pheng Xiong <pxiong@hawaii.edu>

Wed, Feb 23, 2022 at 7:52 AM

https://mail.google.com/mail/u/0/?ik=4c5a4b4032&view=pt&search=all&permthid=thread-f%3A1723788747772314499&dsqt=1&simpl=msg-f%3A172... 5/74

To: Lynne Higa <lynnehig@hawaii.edu>

Cc: Alison R Sherwood <asherwoo@hawaii.edu>, April Nozomi Quinn <agoodwin@hawaii.edu>, Rufus Willett_MATH <rufus@math.hawaii.edu>

Hi April and Lynne,

Yes - we will need to create a new concentration code for the new track. The memo should be fine. Thanks for the code suggestion Lynne - I'll use this one in the PCR to IRAO.

On Tue, Feb 22, 2022 at 5:39 PM Lynne Higa <lynnehig@hawaii.edu> wrote:

Hi Max, Please let me know if there is anything I can do to assist with obtaining the concentration code for the new Computational Science track. I was thinking that MATH-BS-CSCI would be in keeping with the Data Science Track, unless it is problematic to use CSCI (which is also known as the Computer Science major). Lynne From: April Nozomi Quinn <agoodwin@hawaii.edu> Sent: Monday, February 14, 2022 2:56 PM To: Lynne Higa <lynnehig@hawaii.edu> Cc: Max Xiong cpiiiong@hawaii.edu>; A. Sherwood_CNS <asherwoo@hawaii.edu> Subject: Re: FW: Math Modifications Hi Lynne, Great question! Max- do you need additional documentation or can you request the codes with this memo as back-up? Thanks! April April Nozomi Quinn, PhD Director of Program Development and Review Office of the Vice Provost for Academic Excellence University of Hawaii at Manoa 2500 Campus Road, Hawaii Hall, 209 Honolulu, HI 96822 Office: (808) 956-4568 / Fax: (808) 956-7115 http://www.manoa.hawaii.edu On Thu, Feb 10, 2022 at 12:47 PM Lynne Higa <lynnehig@hawaii.edu> wrote:

Aloha Max and April,

What do we need to do to establish a concentration code for this newly approved track within the BS Math degree?

The current codes are:

| Mathematics - BS (General) | MATH-BS |
|---------------------------------|---------------|
| Mathematics - BS (Data Science) | MATH -BS-DSCI |

Lynne

From: Cynthia Tang <cntang@hawaii.edu> Sent: Thursday, February 3, 2022 2:04 PM

To: Rufus Willett <rwillett@hawaii.edu>

Cc: Aloysius Helminck <helminck@hawaii.edu>; Alison R Sherwood <asherwoo@hawaii.edu>; Lynne Higa <lynnehig@hawaii.edu>; Nikki Chun <nkchun@hawaii.edu>; Ryan Yamaguchi <rtyamagu@hawaii.edu>; Diane Nakashima <dianena@hawaii.edu>; Joy N Nishida <jnishida@hawaii.edu>; Max Xiong <pxiong@hawaii.edu>; Lisa Imai <lisaakam@hawaii.edu>; Stephanie Kailiawa <stephk@hawaii.edu>; Grant Kim <grantkim@hawaii.edu>; Pearl Iboshi <iboshi@hawaii.edu>; David Mongold <mongold@hawaii.edu>; Fiorella Penaloza <fpenaloz@hawaii.edu>; Megan Terawaki <megant@hawaii.edu>; Patty Bedoya <pbedoya@hawaii.edu>; Kevin Kaneshiro

https://mail.google.com/mail/u/0/?ik=4c5a4b4032&view=pt&search=all&permthid=thread-f%3A1723788747772314499&dsqt=1&simpl=msg-f%3A172...6/74

University of Hawaii Mail - Math Modifications

| <kevinfk@hawaii.edu>; Alison Kanekuni <kanekuni@hawaii.edu>; Melanie Nishimura <mnishimu@hawaii.edu>; April Quinn <agoodwin@hawaii.edu> Subject: Math Modifications</agoodwin@hawaii.edu></mnishimu@hawaii.edu></kanekuni@hawaii.edu></kevinfk@hawaii.edu> |
|--|
| Aloha Rufus, |
| Attached for your appropriate attention are the copies of the approved program modifications: |
| Undergraduate Program Modification, BS in Mathematics, Data Science Track |
| New Computational Science Track in the Mathematics BS |
| These are your official copies. |
| Should you have any questions, please contact April Quinn at agoodwin@hawaii.edu (copied for your convenience). |
| Thank you, |
| Cynthia |
| |
| Cynthia N. Tang |
| Administrative and Fiscal Support Specialist |
| Office of the Provost |
| University of Hawai'i at Mānoa |
| 2500 Campus Road, Hawai'i Hall 307 |
| Honolulu, HI 96822 |
| (808) 956-7486 / FAX (808) 956-5136 |
| |





University Registrar, Office of the Registrar

p: 808-956-8010

- w: manoa.hawaii.edu/registrar
- e: pxiong@hawaii.edu

The different racial groups in the Territory are represented in the student body and one of the ideals held by those who guide the University is that these students, working and playing together on our campus, shall go out not to break down race differences but to disseminate understanding of these differences, toleration for them, and goodwill. A challenge to us all! - H. MacNeil (University of Hawai'i Registrar - 1922 - 1956)

FERPA Notice: This email message (including any attachments) is for the sole use of the intended recipient(s) and may contain confidential information covered under the Family Educational Rights & Privacy Act (FERPA) and/or applicable state laws. If you received this email (including attachments) in error, please delete this email and notify me immediately.

Pheng Xiong <pxiong@hawaii.edu>

Wed, Feb 23, 2022 at 7:57 AM

To: Lynne Higa <lynnehig@hawaii.edu>

Cc: Alison R Sherwood <asherwoo@hawaii.edu>, April Nozomi Quinn <agoodwin@hawaii.edu>, Rufus Willett_MATH <rufus@math.hawaii.edu>

Quick question - I noticed that the track name is 'computational science'. Since the CSCI code exists as 'computer science' are we fine that this will be the name displayed on the student's academic record and STAR?

Max

On Wed, Feb 23, 2022 at 7:52 AM Pheng Xiong <<u>pxiong@hawaii.edu</u>> wrote: | Hi April and Lynne,

Yes - we will need to create a new concentration code for the new track. The memo should be fine. Thanks for the code suggestion Lynne - I'll use this one in the PCR to IRAO.

On Tue, Feb 22, 2022 at 5:39 PM Lynne Higa <lynnehig@hawaii.edu> wrote:

Hi Max,

University of Hawaii Mail - Math Modifications

Please let me know if there is anything I can do to assist with obtaining the concentration code for the new Computational Science track. I was thinking that MATH-BS-CSCI would be in keeping with the Data Science Track, unless it is problematic to use CSCI (which is also known as the Computer Science major).

Lynne

From: April Nozomi Quinn <agoodwin@hawaii.edu> Sent: Monday, February 14, 2022 2:56 PM To: Lynne Higa <lynnehig@hawaii.edu> Cc: Max Xiong <pxiong@hawaii.edu>; A. Sherwood_CNS <asherwoo@hawaii.edu> Subject: Re: FW: Math Modifications

Hi Lynne,

Great question!

Max- do you need additional documentation or can you request the codes with this memo as back-up?

Thanks!

April

April Nozomi Quinn, PhD

Director of Program Development and Review

Office of the Vice Provost for Academic Excellence

University of Hawaii at Manoa

2500 Campus Road, Hawaii Hall, 209

Honolulu, HI 96822

Office: (808) 956-4568 / Fax: (808) 956-7115

http://www.manoa.hawaii.edu

On Thu, Feb 10, 2022 at 12:47 PM Lynne Higa <lynnehig@hawaii.edu> wrote:

Aloha Max and April,

What do we need to do to establish a concentration code for this newly approved track within the BS Math degree?

The current codes are:

| Mathematics - BS (General) | MATH-BS | |
|---------------------------------|---------------|--|
| Mathematics - BS (Data Science) | MATH -BS-DSCI | |

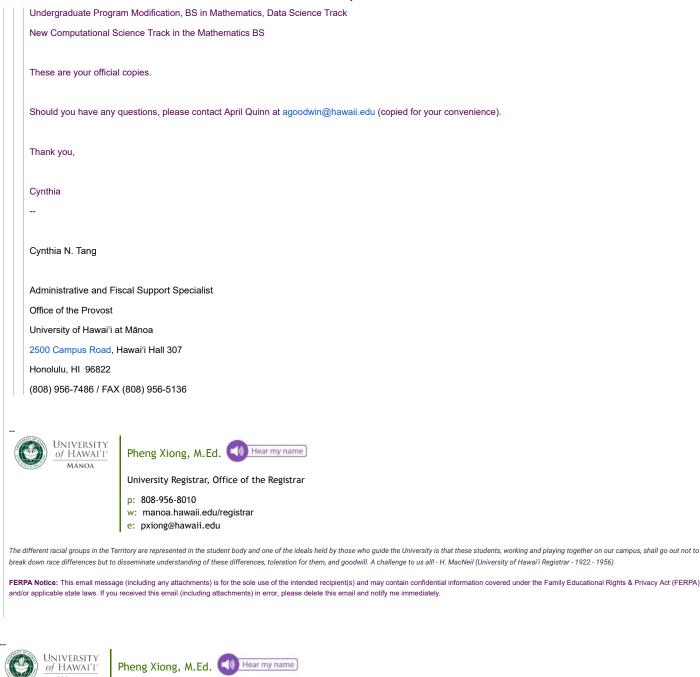
Lynne

From: Cynthia Tang <cntang@hawaii.edu> Sent: Thursday, February 3, 2022 2:04 PM To: Rufus Willett <rwillett@hawaii.edu>

Cc: Aloysius Helminck <helminck@hawaii.edu>; Alison R Sherwood <asherwoo@hawaii.edu>; Lynne Higa <lynnehig@hawaii.edu>; Nikki Chun <hkchun@hawaii.edu>; Ryan Yamaguchi <rtyamagu@hawaii.edu>; Diane Nakashima <dianena@hawaii.edu>; Joy N Nishida <jnishida@hawaii.edu>; Max Xiong <pxiong@hawaii.edu>; Lisa Imai <lisaakam@hawaii.edu>; Stephanie Kailiawa <stephk@hawaii.edu>; Grant Kim <grantkim@hawaii.edu>; Pearl Iboshi <iboshi@hawaii.edu>; David Mongold <mongold@hawaii.edu>; Fiorella Penaloza <fpenaloz@hawaii.edu>; Megan Terawaki <megant@hawaii.edu>; Patty Bedoya <pbedoya@hawaii.edu>; Kevin Kaneshiro <kevinfk@hawaii.edu>; Alison Kanekuni <kanekuni@hawaii.edu>; Melanie Nishimura <mnishimu@hawaii.edu>; April Quinn <agoodwin@hawaii.edu> Subject: Math Modifications

Aloha Rufus,

Attached for your appropriate attention are the copies of the approved program modifications:



University Registrar, Office of the Registrar

- p: 808-956-8010
- w: manoa.hawaii.edu/registrar
- e: pxiong@hawaii.edu

The different racial groups in the Territory are represented in the student body and one of the ideals held by those who guide the University is that these students, working and playing together on our campus, shall go out not to break down race differences but to disseminate understanding of these differences, toleration for them, and goodwill. A challenge to us all! - H. MacNeil (University of Hawai'i Registrar - 1922 - 1956)

Wed, Feb 23, 2022 at 8:18 AM

FERPA Notice: This email message (including any attachments) is for the sole use of the intended recipient(s) and may contain confidential information covered under the Family Educational Rights & Privacy Act (FERPA) and/or applicable state laws. If you received this email (including attachments) in error, please delete this email and notify me immediately.

Lynne Higa <lynnehig@hawaii.edu> To: Pheng Xiong <pxiong@hawaii.edu>

MĀNOA

Cc: Alison R Sherwood <asherwoo@hawaii.edu>, April Quinn <agoodwin@hawaii.edu>, Rufus Willett_MATH <rufus@math.hawaii.edu>

Hi Max,

We want to indicate the track is Computational Science. Sounds like the 4 letter code of CSCI won't work - I was hoping that the combination of the 3 codes (MATH-BS-CSCI) versus CSCI-BS) would allow it to be distinguished from the Computer Science degree, which is different from this new track in the BS Math degree.

Anyone have suggestions?

Lynne

 From: Pheng Xiong <pxiong@hawaii.edu>

 Sent: Wednesday, February 23, 2022 7:58 AM

 To: Lynne Higa <lynnehig@hawaii.edu>

 Cc: Alison R Sherwood <asherwoo@hawaii.edu>; April Nozomi Quinn <agoodwin@hawaii.edu>; Rufus Willett_MATH <rufus@math.hawaii.edu>

 Subject: Re: FW: Math Modifications

 Quick question - I noticed that the track name is 'computational science'. Since the CSCI code exists as 'computer science' are we fine that this will be the name displayed on the student's academic record and STAR?

 Max

On Wed, Feb 23, 2022 at 7:52 AM Pheng Xiong pxiong@hawaii.edu> wrote:

Hi April and Lynne,

Yes - we will need to create a new concentration code for the new track. The memo should be fine. Thanks for the code suggestion Lynne - I'll use this one in the PCR to IRAO.

On Tue, Feb 22, 2022 at 5:39 PM Lynne Higa <lynnehig@hawaii.edu> wrote:

Hi Max,

Please let me know if there is anything I can do to assist with obtaining the concentration code for the new Computational Science track. I was thinking that MATH-BS-CSCI would be in keeping with the Data Science Track, unless it is problematic to use CSCI (which is also known as the Computer Science major).

Lynne

From: April Nozomi Quinn <agoodwin@hawaii.edu> Sent: Monday, February 14, 2022 2:56 PM To: Lynne Higa <lynnehig@hawaii.edu> Cc: Max Xiong <pxiong@hawaii.edu>; A. Sherwood_CNS <asherwoo@hawaii.edu> Subject: Re: FW: Math Modifications

Hi Lynne,

Great question!

Max- do you need additional documentation or can you request the codes with this memo as back-up?

Thanks!

April

April Nozomi Quinn, PhD

Director of Program Development and Review

Office of the Vice Provost for Academic Excellence

University of Hawaii at Manoa

2500 Campus Road, Hawaii Hall, 209

Honolulu, HI 96822

Office: (808) 956-4568 / Fax: (808) 956-7115

http://www.manoa.hawaii.edu

On Thu, Feb 10, 2022 at 12:47 PM Lynne Higa <lynnehig@hawaii.edu> wrote:

Aloha Max and April,

What do we need to do to establish a concentration code for this newly approved track within the BS Math degree?

The current codes are:

| Mathematics - BS (General) | MATH-BS | |
|---------------------------------|---------------|--|
| Mathematics - BS (Data Science) | MATH -BS-DSCI | |

Lynne

From: Cynthia Tang <cntang@hawaii.edu> Sent: Thursday, February 3, 2022 2:04 PM

To: Rufus Willett <rwillett@hawaii.edu>

Cc: Aloysius Helminck https://www.elucation.edu; Lynne Higa <lynnehig@hawaii.edu; Nikki Chun <nkchun@hawaii.edu>; Ryan Yamaguchi <rtyamagu@hawaii.edu>; Diane Nakashima <dianena@hawaii.edu>; Joy N Nishida <inishida@hawaii.edu>; Max Xiong xiong@hawaii.edu>; Liśa Imai <lišaakam@hawaii.edu>; Stephanie Kailiawa <stephk@hawaii.edu>; Grant Kim <grantkim@hawaii.edu>; Pearl Iboshi boshi@hawaii.edu>; David Mongold <mongold@hawaii.edu>; Fiorella Penaloza <fpenaloz@hawaii.edu>; Megan Terawaki <megant@hawaii.edu>; Patty Bedoya cpbedoya@hawaii.edu>; Kevin Kaneshiro <kevinfk@hawaii.edu>; Alison Kanekuni <kanekuni@hawaii.edu>; Melanie Nishimura <mnishimu@hawaii.edu>; April Quinn <agoodwin@hawaii.edu> Subject: Math Modifications

Aloha Rufus,

Attached for your appropriate attention are the copies of the approved program modifications:

Undergraduate Program Modification, BS in Mathematics, Data Science Track

New Computational Science Track in the Mathematics BS

These are your official copies.

Should you have any questions, please contact April Quinn at agoodwin@hawaii.edu (copied for your convenience).

Hear my name

Thank you,

Cynthia

Cynthia N. Tang

Administrative and Fiscal Support Specialist

Office of the Provost

University of Hawai'i at Mānoa

2500 Campus Road, Hawai'i Hall 307

Honolulu, HI 96822

(808) 956-7486 / FAX (808) 956-5136





w: manoa.hawaii.edu/registrar

The different racial groups in the Territory are represented in the student body and one of the ideals held by those who guide the University is that these students, working and playing together on our campus, shall go out not to break down race differences but to disseminate understanding of these differences, toleration for them, and goodwill. A challenge to us all! - H. MacNeil (University of Hawai'i Registrar - 1922 - 1956)

FERPA Notice: This email message (including any attachments) is for the sole use of the intended recipient(s) and may contain confidential information covered under the Family Educational Rights & Privacy Act (FERPA) and/or applicable state laws. If you received this email (including attachments) in error, please delete this email and notify me immediately.



e: pxiong@hawaii.edu

The different racial groups in the Territory are represented in the student body and one of the ideals held by those who guide the University is that these students, working and playing together on our campus, shall go out not to break down race differences but to disseminate understanding of these differences, toleration for them, and goodwill. A challenge to us all! - H. MacNeil (University of Hawaiï Registrar - 1922 - 1956)

FERPA Notice: This email message (including any attachments) is for the sole use of the intended recipient(s) and may contain confidential information covered under the Family Educational Rights & Privacy Act (FERPA) and/or applicable state laws. If you received this email (including attachments) in error, please delete this email and notify me immediately.

Alison R Sherwood <asherwoo@hawaii.edu> Wed, Feb 23, 2022 at 9:36 AM To: Lynne Higa <lynnehig@hawaii.edu> Cc: Pheng Xiong <pxiong@hawaii.edu>, April Quinn <agoodwin@hawaii.edu>, Rufus Willett_MATH <rufus@math.hawaii.edu> What about MATH-BS-COMP? Alison Interim Associate Dean, College of Natural Sciences Professor, School of Life Sciences University of Hawai'i at Mānoa http://sherwoodalgalbiodiversitylab.weebly.com/ On Wed, Feb 23, 2022 at 8:18 AM Lynne Higa <lynnehig@hawaii.edu> wrote: Hi Max, We want to indicate the track is Computational Science. Sounds like the 4 letter code of CSCI won't work - I was hoping that the combination of the 3 codes (MATH-BS-CSCI) versus CSCI-BS) would allow it to be distinguished from the Computer Science degree, which is different from this new track in the BS Math degree. Anyone have suggestions? Lynne From: Pheng Xiong <pxiong@hawaii.edu> Sent: Wednesday, February 23, 2022 7:58 AM To: Lynne Higa <lynnehig@hawaii.edu> Cc: Alison R Sherwood <asherwoo@hawaii.edu>; April Nozomi Quinn <agoodwin@hawaii.edu>; Rufus Willett_MATH <rufus@math.hawaii.edu> Subject: Re: FW: Math Modifications Quick question - I noticed that the track name is 'computational science'. Since the CSCI code exists as 'computer science' are we fine that this will be the name displayed on the student's academic record and STAR?

| | ennereny | of Hawaii Mail - Math Modifications |
|--|---|--|
| | | |
| Wed, Feb 23, 2022 at 7:52 AM Pr | neng Xiong <pxiong@hawaii.edu> wrote:</pxiong@hawaii.edu> | |
| li April and Lynne, | | |
| | | |
| es - we will need to create a new RAO. | concentration code for the new track. The memo | should be fine. Thanks for the code suggestion Lynne - I'll use this one in the PCR |
| n Tue, Feb 22, 2022 at 5:39 PM I | Lynne Higa <lynnehig@hawaii.edu> wrote:</lynnehig@hawaii.edu> | |
| Hi Max, | | |
| | | entration code for the new Computational Science track. I was thinking that MATH- ic to use CSCI (which is also known as the Computer Science major). |
| Lynne | | |
| From: April Nozomi Quinn <age Sent: Monday, February 14, 202 To: Lynne Higa <lynnehig@haw Cc: Max Xiong <pxiong@hawai Subject: Re: FW: Math Modifica</pxiong@hawai </lynnehig@haw </age | 22 2:56 PM raii.edu> i.edu>; A. Sherwood_CNS <asherwoo@hawaii.e< th=""><td>du></td></asherwoo@hawaii.e<> | du> |
| Hi Lynne, | | |
| Great question! | | |
| Max- do you need additional do | cumentation or can you request the codes with th | is memo as back-up? |
| Thanks! | | |
| April | | |
| April Nozomi Quinn, PhD | | |
| Director of Program Developme | nt and Review | |
| Office of the Vice Provost for Ac | ademic Excellence | |
| University of Hawaii at Manoa | | |
| 2500 Campus Road, Hawaii Hal | II, 209 | |
| Honolulu, HI 96822 | | |
| Office: (808) 956-4568 / Fax: (80 | 08) 956-7115 | |
| http://www.manoa.hawaii.edu | | |
| | | |
| On Thu, Feb 10, 2022 at 12:47 ! | PM Lynne Higa <lynnehig@hawaii.edu> wrote:</lynnehig@hawaii.edu> | |
| Aloha Max and April, | | |
| | | |
| What do we need to do to est | tablish a concentration code for this newly approv | red track within the BS Math degree? |
| The current codes are: | | |
| Mathematics - BS (General | I) MATH-BS | |
| Mathematics - BS (Data So | ience) MATH -BS-DS | |

Lynne

| | From: Cynthia Tang <cntang@hawaii.edu> Sent: Thursday, February 3, 2022 2:04 PM To: Rufus Willett </cntang@hawaii.edu> | |
|--|--|--|
|--|--|--|

Wed, Feb 23, 2022 at 10:11 AM



FERPA Notice: This email message (including any attachments) is for the sole use of the intended recipient(s) and may contain confidential information covered under the Family Educational Rights & Privacy Act (FERPA) and/or applicable state laws. If you received this email (including attachments) in error, please delete this email

and notify me immediately.

Pheng Xiong <pxiong@hawaii.edu> To: Alison R Sherwood <asherwoo@hawaii.edu> Cc: Lynne Higa <lynnehig@hawaii.edu>, April Quinn <agoodwin@hawaii.edu>, Rufus Willett_MATH <rufus@math.hawaii.edu>

Hi Alison,

Alison

Actually COMP code is already taken - and so are others that I was thinking of. Can I suggest CLSC instead?

Max

On Wed, Feb 23, 2022 at 9:36 AM Alison R Sherwood <asherwoo@hawaii.edu> wrote: | What about MATH-BS-COMP?

Interim Associate Dean, College of Natural Sciences Professor, School of Life Sciences University of Hawai'i at Mānoa http://sherwoodalgalbiodiversitylab.weebly.com/ On Wed, Feb 23, 2022 at 8:18 AM Lynne Higa <lynnehig@hawaii.edu> wrote: Hi Max, We want to indicate the track is Computational Science. Sounds like the 4 letter code of CSCI won't work - I was hoping that the combination of the 3 codes (MATH-BS-CSCI) versus CSCI-BS) would allow it to be distinguished from the Computer Science degree, which is different from this new track in the BS Math degree. Anyone have suggestions? Lynne From: Pheng Xiong <pxiong@hawaii.edu> Sent: Wednesday, February 23, 2022 7:58 AM To: Lynne Higa <lynnehig@hawaii.edu> Cc: Alison R Sherwood <asherwoo@hawaii.edu>; April Nozomi Quinn <agoodwin@hawaii.edu>; Rufus Willett MATH <rufus@math.hawaii.edu> Subject: Re: FW: Math Modifications Quick question - I noticed that the track name is 'computational science'. Since the CSCI code exists as 'computer science' are we fine that this will be the name displayed on the student's academic record and STAR? Max On Wed, Feb 23, 2022 at 7:52 AM Pheng Xiong pxiong@hawaii.edu> wrote: Hi April and Lynne,

https://mail.google.com/mail/u/0/?ik=4c5a4b4032&view=pt&search=all&permthid=thread-f%3A1723788747772314499&dsqt=1&simpl=msg-f%3A17... 15/74

University of Hawaii Mail - Math Modifications

Yes - we will need to create a new concentration code for the new track. The memo should be fine. Thanks for the code suggestion Lynne - I'll use this one in the PCR to IRAO On Tue, Feb 22, 2022 at 5:39 PM Lynne Higa <lynnehig@hawaii.edu> wrote: Hi Max. Please let me know if there is anything I can do to assist with obtaining the concentration code for the new Computational Science track. I was thinking that MATH-BS-CSCI would be in keeping with the Data Science Track, unless it is problematic to use CSCI (which is also known as the Computer Science major). Lynne From: April Nozomi Quinn <agoodwin@hawaii.edu> Sent: Monday, February 14, 2022 2:56 PM To: Lynne Higa <lynnehig@hawaii.edu> Cc: Max Xiong <pxiong@hawaii.edu>; A. Sherwood_CNS <asherwoo@hawaii.edu> Subject: Re: FW: Math Modifications Hi Lynne, Great question! Max- do you need additional documentation or can you request the codes with this memo as back-up? Thanks April April Nozomi Quinn, PhD Director of Program Development and Review Office of the Vice Provost for Academic Excellence University of Hawaii at Manoa 2500 Campus Road, Hawaii Hall, 209 Honolulu, HI 96822 Office: (808) 956-4568 / Fax: (808) 956-7115 http://www.manoa.hawaii.edu On Thu, Feb 10, 2022 at 12:47 PM Lynne Higa <lynnehig@hawaii.edu> wrote: Aloha Max and April, What do we need to do to establish a concentration code for this newly approved track within the BS Math degree? The current codes are: MATH-BS Mathematics - BS (General) MATH -BS-DSCI Mathematics - BS (Data Science) Lynne From: Cynthia Tang <cntang@hawaii.edu> Sent: Thursday, February 3, 2022 2:04 PM To: Rufus Willett <rwillett@hawaii.edu> Cc: Aloysius Helminck <helminck@hawaii.edu>; Alison R Sherwood <asherwoo@hawaii.edu>; Lynne Higa <lynnehig@hawaii.edu>; Nikki Chun <nkchun@hawaii.edu>; Ryan YamaguQhi <rtyamagu@hawaii.edu>; Diane Nakashima <dianena@hawaii.edu>; Joy N Nishida <jnishida@hawaii.edu>; Max Xiong <pxiong@hawaii.edu>; Lisa Imai <lisaakam@hawaii.edu>; Stephanie Kailiawa <stephk@hawaii.edu>; Grant Kim <grantkim@hawaii.edu>; Pearl Iboshi <iboshi@hawaii.edu>; David Mongold <mongold@hawaii.edu>; Fiorella Penaloza <fpenaloz@hawaii.edu>; Megan Terawaki <megant@hawaii.edu>; Patty Bedoya <pbedoya@hawaii.edu>; Kevin Kaneshiro <kevinfk@hawaii.edu>; Alison Kanekuni <kanekuni@hawaii.edu>; Melanie Nishimura <mnishimu@hawaii.edu>; April Quinn <agoodwin@hawaii.edu>

https://mail.google.com/mail/u/0/?ik=4c5a4b4032&view=pt&search=all&permthid=thread-f%3A1723788747772314499&dsqt=1&simpl=msg-f%3A17... 16/74

Subject: Math Modifications

| · <u>~</u> | , 0., | | |
|------------|-------|------------------------------------|--|
| | | Aloha Rufus, | |
| | | Attached for your a | ppropriate attention are the copies of the approved program modifications: |
| | | | gram Modification, BS in Mathematics, Data Science Track I Science Track in the Mathematics BS |
| | | | |
| | | These are your offi | cial copies. |
| | | Should you have a | ny questions, please contact April Quinn at agoodwin@hawaii.edu (copied for your convenience). |
| | | Thank you, | |
| | | Cynthia | |
| | | | |
| | | Cynthia N. Tang | |
| | | Administrative and | Fiscal Support Specialist |
| | | Office of the Provos | st |
| | | University of Hawa | i'i at Mānoa |
| | | 2500 Campus Roa | d, Hawai'i Hall 307 |
| | | Honolulu, HI 96822 | 2 |
| | | | - AX (808) 956-5136 |
| | | , (,, - | |
| | | | |
| | | University of Hawai'i' Mānoa | Pheng Xiong, M.Ed. Hear my name University Registrar, Office of the Registrar |
| | | | p: 808-956-8010 |
| | | | w: manoa.hawaii.edu/registrar |
| | | | e: pxiong@hawaii.edu |
| | | | I |
| | | | Territory are represented in the student body and one of the ideals held by those who guide the University is that these students, working and playing together on our campus, shall go out es but to disseminate understanding of these differences, toleration for them, and goodwill. A challenge to us all: - H. MacNeii (University of Hawai'i Registrar - 1922 - 1956) |
| | u | | nail message (including any attachments) is for the sole use of the intended recipient(s) and may contain confidential information covered tional Rights & Privacy Act (FERPA) and/or applicable state laws. If you received this email (including attachments) in error, please delete immediately. |
| | | | |
| | | | |
| | | | |
| | | UNIVERSITY of HAWAI'I' Mānoa | Pheng Xiong, M.Ed. Hearmy name University Registrar, Office of the Registrar |
| | | | |

| 23/22, 3:31 PM | University of Hawaii Mail - Math Modifications |
|--|---|
| | w: manoa.hawaii.edu/registrar |
| | e: pxiong@hawaii.edu |
| | |
| | the Territory are represented in the student body and one of the ideals held by those who guide the University is that these students, working and playing together on our campus, shall go out not to but to disseminate understanding of these differences, toleration for them, and goodwill. A challenge to us all! - H. MacNeil (University of Hawai'i Registrar - 1922 - 1956) |
| | email message (including any attachments) is for the sole use of the intended recipient(s) and may contain confidential information covered cational Rights & Privacy Act (FERPA) and/or applicable state laws. If you received this email (including attachments) in error, please delete this nmediately. |
| | |
| UNIVERSITY <u>of Hawai'i</u> <u>Mānoa</u> | Pheng Xiong, M.Ed. 🕖 Hear my name |
| | University Registrar, Office of the Registrar |
| | p: 808-956-8010 w: manoa.hawaii.edu/registrar e: pxiong@hawaii.edu |
| | ritory are represented in the student body and one of the ideals held by those who guide the University is that these students, working and playing together on our campus, shall go out not to break initiate understanding of these differences, toleration for them, and goodwill. A challenge to us all! - H. MacNeil (University of Hawai'i Registrar - 1922 - 1956) |
| FERPA Notice: This email messag | initiate understanding of these differences, toteration for them, and goodwin. A challenge to us an - n. Machen (Chinelisity of Hawari Registral - 1922 - 1936) (including any attachments) is for the sole use of the intended recipient(s) and may contain confidential information covered under the Family Educational Rights & Privacy Act (FERPA) received this email (including attachments) in error, please delete this email and notify me immediately. |
| and/or applicable state laws. If you | |
| neng Xiong <pxiong@haw< th=""><th>aii.edu> Wed, Feb 23, 2022 at 10:14 Al</th></pxiong@haw<> | aii.edu> Wed, Feb 23, 2022 at 10:14 Al |
| o: Alison R Sherwood <ash c: Lynne Higa <lynnehig@h< th=""><th>erwoo@hawaii.edu> nawaii.edu>, April Quinn <agoodwin@hawaii.edu>, Rufus Willett MATH <rufus@math.hawaii.edu></rufus@math.hawaii.edu></agoodwin@hawaii.edu></th></lynnehig@h<></ash | erwoo@hawaii.edu> nawaii.edu>, April Quinn <agoodwin@hawaii.edu>, Rufus Willett MATH <rufus@math.hawaii.edu></rufus@math.hawaii.edu></agoodwin@hawaii.edu> |
| Forgot to add - just in case | IRAO were to ask (they most likely will) - how does computational science differ from computer science? I'd like to make sure that this request goes |
| smoothly and without ques | |
| Max | |
| On Wed, Feb 23, 2022 at 1 Hi Alison, | 0:11 AM Pheng Xiong <pxiong@hawaii.edu> wrote:</pxiong@hawaii.edu> |
| Actually COMP code is a | Iready taken - and so are others that I was thinking of. Can I suggest CLSC instead? |
| Мах | |
| On Wed, Feb 23, 2022 a What about MATH-BS | t 9:36 AM Alison R Sherwood <asherwoo@hawaii.edu> wrote: -COMP?</asherwoo@hawaii.edu> |
| Alison | |
| Interim Associate Dean, Colle | age of Natural Sciences |
| Professor, School of Life Scie University of Hawai'i at Māno | ances |
| http://sherwoodalgalbiodivers | |
| On Wed, Feb 23, 2022 | 2 at 8:18 AM Lynne Higa <lynnehig@hawaii.edu> wrote:</lynnehig@hawaii.edu> |
| Hi Max, | |
| | the track is Computational Science. Sounds like the 4 letter code of CSCI won't work – I was hoping that the combination of the 3 codes (MATH- SCI-BS) would allow it to be distinguished from the Computer Science degree, which is different from this new track in the BS Math degree. |
| Anyone have sugge | stions? |
| Lynne | |
| | |
| | <pre><pxiong@hawaii.edu> February 23, 2022 7:58 AM inehig@hawaii.edu></pxiong@hawaii.edu></pre> |
| | ood <asherwoo@hawaii.edu>; April Nozomi Quinn <agoodwin@hawaii.edu>; Rufus Willett_MATH <rufus@math.hawaii.edu></rufus@math.hawaii.edu></agoodwin@hawaii.edu></asherwoo@hawaii.edu> |

University of Hawaii Mail - Math Modifications

| | uestion - I noticed that the track name is 'computational science ed on the student's academic record and STAR? | ce'. Since the CSCI co | de exists as 'computer science' are we fine that this will be the nar |
|----------------|--|------------------------|---|
| lax | | | |
| n Wee | d, Feb 23, 2022 at 7:52 AM Pheng Xiong <pxiong@hawaii.edu< td=""><td>ı> wrote:</td><td></td></pxiong@hawaii.edu<> | ı> wrote: | |
| Hi Ap | pril and Lynne, | | |
| | - we will need to create a new concentration code for the new t to IRAO. | track. The memo shou | ld be fine. Thanks for the code suggestion Lynne - I'll use this one |
| On T | 「ue, Feb 22, 2022 at 5:39 PM Lynne Higa <lynnehig@hawaii.e< td=""><td>du> wrote:</td><td></td></lynnehig@hawaii.e<> | du> wrote: | |
| Hi | i Max, | | |
| | | | on code for the new Computational Science track. I was thinking atic to use CSCI (which is also known as the Computer Science m |
| Ly | ynne | | |
| Se To Co | rom: April Nozomi Quinn <agoodwin@hawaii.edu> ent: Monday, February 14, 2022 2:56 PM b: Lynne Higa <lynnehig@hawaii.edu> c: Max Xiong <pxiong@hawaii.edu>; A. Sherwood_CNS <ash ubject: Re: FW: Math Modifications</ash </pxiong@hawaii.edu></lynnehig@hawaii.edu></agoodwin@hawaii.edu> | erwoo@hawaii.edu> | |
| Hi | i Lynne, | | |
| G | reat question! | | |
| M | ax- do you need additional documentation or can you request | the codes with this me | mo as back-up? |
| Tł | hanks! | | |
| A | pril | | |
| A | pril Nozomi Quinn, PhD | | |
| Di | irector of Program Development and Review | | |
| O | ffice of the Vice Provost for Academic Excellence | | |
| U | niversity of Hawaii at Manoa | | |
| 25 | 500 Campus Road, Hawaii Hall, 209 | | |
| H | onolulu, HI 96822 | | |
| O | ffice: (808) 956-4568 / Fax: (808) 956-7115 | | |
| ht | tp://www.manoa.hawaii.edu | | |
| | | | |
| O | n Thu, Feb 10, 2022 at 12:47 PM Lynne Higa <lynnehig@haw Aloha Max and April,</lynnehig@haw | aii.edu> wrote: | |
| | What do we need to do to establish a concentration code for t | this newly approved tr | ack within the BS Math degree? |
| | The current codes are: | | |
| | Mathematics - BS (General) | MATH-BS | |
| | | | |

| | Lynne | |
|-----|---|---|
| | | |
| | <nkchun@hawaii.edu Xiong <pxiong@hawa <iboshi@hawaii.edu> Bedoya <pbedoya@h< td=""><td>uary 3, 2022 2:04 PM llett@hawaii.edu> k <helminck@hawaii.edu>; Alison R Sherwood <asherwoo@hawaii.edu>; Lynne Higa <lynnehig@hawaii.edu>; Nikki Chun >; Ryan Yamaguchi <rtyamagu@hawaii.edu>; Diane Nakashima <dianena@hawaii.edu>; Joy N Nishida <jnishida@hawaii.edu>; Max aii.edu>; Lisa Imai <lisaakam@hawaii.edu>; Stephanie Kailiawa <stephk@hawaii.edu>; Grant Kim <grantkim@hawaii.edu>; Pearl Iboshi ; David Mongold <mongold@hawaii.edu>; Fiorella Penaloza <fpenaloz@hawaii.edu>; Megan Terawaki <megant@hawaii.edu>; Patty iawaii.edu>; Kevin Kaneshiro <kevinfk@hawaii.edu>; Alison Kanekuni <kanekuni@hawaii.edu>; Melanie Nishimura du>; April Quinn <agoodwin@hawaii.edu></agoodwin@hawaii.edu></kanekuni@hawaii.edu></kevinfk@hawaii.edu></megant@hawaii.edu></fpenaloz@hawaii.edu></mongold@hawaii.edu></grantkim@hawaii.edu></stephk@hawaii.edu></lisaakam@hawaii.edu></jnishida@hawaii.edu></dianena@hawaii.edu></rtyamagu@hawaii.edu></lynnehig@hawaii.edu></asherwoo@hawaii.edu></helminck@hawaii.edu></td></pbedoya@h<></iboshi@hawaii.edu></pxiong@hawa </nkchun@hawaii.edu | uary 3, 2022 2:04 PM llett@hawaii.edu> k <helminck@hawaii.edu>; Alison R Sherwood <asherwoo@hawaii.edu>; Lynne Higa <lynnehig@hawaii.edu>; Nikki Chun >; Ryan Yamaguchi <rtyamagu@hawaii.edu>; Diane Nakashima <dianena@hawaii.edu>; Joy N Nishida <jnishida@hawaii.edu>; Max aii.edu>; Lisa Imai <lisaakam@hawaii.edu>; Stephanie Kailiawa <stephk@hawaii.edu>; Grant Kim <grantkim@hawaii.edu>; Pearl Iboshi ; David Mongold <mongold@hawaii.edu>; Fiorella Penaloza <fpenaloz@hawaii.edu>; Megan Terawaki <megant@hawaii.edu>; Patty iawaii.edu>; Kevin Kaneshiro <kevinfk@hawaii.edu>; Alison Kanekuni <kanekuni@hawaii.edu>; Melanie Nishimura du>; April Quinn <agoodwin@hawaii.edu></agoodwin@hawaii.edu></kanekuni@hawaii.edu></kevinfk@hawaii.edu></megant@hawaii.edu></fpenaloz@hawaii.edu></mongold@hawaii.edu></grantkim@hawaii.edu></stephk@hawaii.edu></lisaakam@hawaii.edu></jnishida@hawaii.edu></dianena@hawaii.edu></rtyamagu@hawaii.edu></lynnehig@hawaii.edu></asherwoo@hawaii.edu></helminck@hawaii.edu> |
| | Aloha Rufus, | |
| | Attached for your app | ropriate attention are the copies of the approved program modifications: |
| | Undergraduate Progra | am Modification, BS in Mathematics, Data Science Track |
| | New Computational S | cience Track in the Mathematics BS |
| | These are your officia | I copies. |
| | Should you have any | questions, please contact April Quinn at agoodwin@hawaii.edu (copied for your convenience). |
| | Thank you, | |
| | Cynthia | |
| | | |
| | Cynthia N. Tang | |
| | Administrative and Fi | scal Support Specialist |
| | Office of the Provost | |
| | University of Hawai'i a | |
| | 2500 Campus Road, | Hawai'i Hall 307 |
| | Honolulu, HI 96822 (808) 956-7486 / FAX | ((808) 956-5136 |
| | | |
| | University of Hawai' <u>i</u> mända | Pheng Xiong, M.Ed. University Registrar, Office of the Registrar |
| | | p: 808-956-8010 |
| | | w: manoa.hawaii.edu/registrar |
| | | e: pxiong@hawaii.edu |
| | | rritory are represented in the student body and one of the ideals held by those who guide the University is that these students, working and playing together on our campus, shall go out but to disseminate understanding of these differences, toleration for them, and goodwill. A challenge to us all! - H. MacNeil (University of Hawai'' Registrar - 1922 - 1956) |
| FEF | RPA Notice: This email | I message (including any attachments) is for the sole use of the intended recipient(s) and may contain confidential information covered nal Rights & Privacy Act (FERPA) and/or applicable state laws. If you received this email (including attachments) in error, please delete |

| University of Hawai'i Mānoa | | |
|---|--|---------------------------------------|
| | p: 808-956-8010 | |
| | w: manoa.hawaii.edu/registrar | |
| | e: pxiong@hawaii.edu | |
| to break down race differences FERPA Notice: This er | the Territory are represented in the student body and one of the ideals held by those who guide the University is that these students, working and playing together on s but to disseminate understanding of these differences, toleration for them, and goodwill. A challenge to us all! - H. MacNeil (University of Hawai'i Registrar - 1922 - email message (including any attachments) is for the sole use of the intended recipient(s) and may contain confidential inf cational Rights & Privacy Act (FERPA) and/or applicable state laws. If you received this email (including attachments) in e ne immediately. | ¹⁹⁵⁶⁾ formation covered |
| UNIVERSITY of HAWAI'I' Mānoa | Pheng Xiong, M.Ed. Hear my name University Registrar, Office of the Registrar p: 808-956-8010 w: manoa.hawaii.edu/registrar | |
| The different racial groups in the Terr | e: pxiong@hawaii.edu | mpus, shall go out not to |
| FERPA Notice: This email message | disseminate understanding of these differences, toleration for them, and goodwill. A challenge to us all! - H. MacNeil (University of Hawai'i Registrar - 1922 - 1956) e (including any attachments) is for the sole use of the intended recipient(s) and may contain confidential information covered under the Family Educational Right received this email (including attachments) in error, please delete this email and notify me immediately. | s & Privacy Act (FERPA) |
| UNIVERSITY of HAWAI'I' Mānoa | Pheng Xiong, M.Ed. (1) Hear my name | |
| p w | University Registrar, Office of the Registrar p: 808-956-8010 w: manoa.hawaii.edu/registrar e: pxiong@hawaii.edu | |
| | ory are represented in the student body and one of the ideals held by those who guide the University is that these students, working and playing together on our camp ate understanding of these differences, toleration for them, and goodwill. A challenge to us all! - H. MacNeil (University of Hawai'i Registrar - 1922 - 1956) | ous, shall go out not to break |
| | including any attachments) is for the sole use of the intended recipient(s) and may contain confidential information covered under the Family Educational Rights & seived this email (including attachments) in error, please delete this email and notify me immediately. | Privacy Act (FERPA) |
| | .edu> aii.edu>, Alison R Sherwood <asherwoo@hawaii.edu> waii.edu>, Rufus Willett MATH <rufus@math.hawaii.edu></rufus@math.hawaii.edu></asherwoo@hawaii.edu> | b 23, 2022 at 10:35 AM |
| Hi Max, | | |

Rufus – please correct me if I am not explaining this well (or incorrectly). Computational science can be considered an interdisciplinary in nature in that it does involve knowledge of both mathematics and computer science. This computational science track heavily focuses on mathematical modeling/techniques and is reflected in the requirements for this track. The vast majority of the courses required for this track are MATH courses and not ICS courses. It is considered an applied math degree.

Lynne

From: Pheng Xiong <pxiong@hawaii.edu> Sent: Wednesday, February 23, 2022 10:14 AM To: Alison R Sherwood <asherwoo@hawaii.edu> Cc: Lynne Higa <lynnehig@hawaii.edu>; April Quinn <agoodwin@hawaii.edu>; Rufus Willett_MATH <rufus@math.hawaii.edu> Subject: Re: FW: Math Modifications

Forgot to add - just in case IRAO were to ask (they most likely will) - how does computational science differ from computer science? I'd like to make sure that this request goes smoothly and without question from IRAO.

Max

On Wed, Feb 23, 2022 at 10:11 AM Pheng Xiong pxiong@hawaii.edu> wrote:

Hi Alison, Actually COMP code is already taken - and so are others that I was thinking of. Can I suggest CLSC instead? Max On Wed, Feb 23, 2022 at 9:36 AM Alison R Sherwood <asherwoo@hawaii.edu> wrote: What about MATH-BS-COMP? Alison Interim Associate Dean, College of Natural Sciences Professor, School of Life Sciences University of Hawai'i at Mānoa http://sherwoodalgalbiodiversitylab.weebly.com/ On Wed, Feb 23, 2022 at 8:18 AM Lynne Higa <lynnehig@hawaii.edu> wrote: Hi Max, We want to indicate the track is Computational Science. Sounds like the 4 letter code of CSCI won't work - I was hoping that the combination of the 3 codes (MATH-BS-CSCI) versus CSCI-BS) would allow it to be distinguished from the Computer Science degree, which is different from this new track in the BS Math degree. Anyone have suggestions? Lynne From: Pheng Xiong <pxiong@hawaii.edu> Sent: Wednesday, February 23, 2022 7:58 AM To: Lynne Higa <lynnehig@hawaii.edu> Cc: Álison R Sherwood <asherwoo@hawaii.edu>; April Nozomi Quinn <agoodwin@hawaii.edu>; Rufus Willett_MATH <rufus@math.hawaii.edu> Subject: Re: FW: Math Modifications Quick question - I noticed that the track name is 'computational science'. Since the CSCI code exists as 'computer science' are we fine that this will be the name displayed on the student's academic record and STAR? Max On Wed, Feb 23, 2022 at 7:52 AM Pheng Xiong pxiong@hawaii.edu> wrote: Hi April and Lynne,

University of Hawaii Mail - Math Modifications Yes - we will need to create a new concentration code for the new track. The memo should be fine. Thanks for the code suggestion Lynne - I'll use this one in the PCR to IRAO. On Tue, Feb 22, 2022 at 5:39 PM Lynne Higa <lynnehig@hawaii.edu> wrote: Hi Max. Please let me know if there is anything I can do to assist with obtaining the concentration code for the new Computational Science track. I was thinking that MATH-BS-CSCI would be in keeping with the Data Science Track, unless it is problematic to use CSCI (which is also known as the Computer Science major). Lynne From: April Nozomi Quinn <agoodwin@hawaii.edu> Sent: Monday, February 14, 2022 2:56 PM Co: Lynne Higa <lynnehig@hawaii.edu> Cc: Max Xiong <pxiong@hawaii.edu>; A. Sherwood_CNS <asherwoo@hawaii.edu> Subject: Re: FW: Math Modifications Hi Lynne, Great question! Max- do you need additional documentation or can you request the codes with this memo as back-up? Thanks! April April Nozomi Quinn, PhD Director of Program Development and Review Office of the Vice Provost for Academic Excellence University of Hawaii at Manoa 2500 Campus Road, Hawaii Hall, 209 Honolulu, HI 96822 Office: (808) 956-4568 / Fax: (808) 956-7115 http://www.manoa.hawaii.edu On Thu, Feb 10, 2022 at 12:47 PM Lynne Higa <lynnehig@hawaii.edu> wrote: Aloha Max and April, What do we need to do to establish a concentration code for this newly approved track within the BS Math degree? The current codes are: MATH-BS Mathematics - BS (General) MATH -BS-DSCI Mathematics - BS (Data Science)

Lynne

From: Cynthia Tang <cntang@hawaii.edu> Sent: Thursday, February 3, 2022 2:04 PM To: Rufus Willett <nvillett@hawaii.edu> Cc: Aloysius Helminck <helminck@hawaii.edu: <nkchun@hawaii.edu>: Rvan Yamaauchi <rtva

Cc: Aloysius Helminck <helminck@hawaii.edu>; Alison R Sherwood <asherwoo@hawaii.edu>; Lynne Higa <lynnehig@hawaii.edu>; Nikki Chun <nkchun@hawaii.edu>; Ryan Yamaguchi <rtyamagu@hawaii.edu>; Diane Nakashima <dianena@hawaii.edu>; Joy N Nishida <jnishida@hawaii.edu>; Max Xiong <pxiong@hawaii.edu>; Lisa Imai <lisaakam@hawaii.edu>; Stephanie Kailiawa <stephk@hawaii.edu>; Grant Kim <grantkim@hawaii.edu>; Pearl Iboshi <iboshi@hawaii.edu>; David Mongold <mongold@hawaii.edu>; Stephanie Kailiawa <stephk@hawaii.edu>; Megan Terawaki <megant@hawaii.edu>; Patty Bedoya <pbedoya@hawaii.edu>; Kevin Kaneshiro <kevinfk@hawaii.edu>; Alison Kanekuni <kanekuni@hawaii.edu>; Melanie Nishimura <minshimu@hawaii.edu>; April Quinn <agoodwin@hawaii.edu> Subject: Math Modifications

https://mail.google.com/mail/u/0/?ik=4c5a4b4032&view=pt&search=all&permthid=thread-f%3A1723788747772314499&dsqt=1&simpl=msg-f%3A17... 23/74

| Attached for your app | |
|--|--|
| | ropriate attention are the copies of the approved program modifications: |
| Undergraduate Progra | am Modification, BS in Mathematics, Data Science Track |
| New Computational S | cience Track in the Mathematics BS |
| These are your officia | I copies. |
| Should you have any | questions, please contact April Quinn at agoodwin@hawaii.edu (copied for your convenience). |
| Thank you, | |
| Cynthia | |
| | |
| Cynthia N. Tang | |
| Administrative and Fi | scal Support Specialist |
| Office of the Provost | |
| University of Hawai'i a | |
| 2500 Campus Road, | Hawai'i Hall 307 |
| Honolulu, HI 96822 | |
| University | Pheng Xiong, M.Ed. |
| UNIVERSITY <u>of Hawai'i'</u> <u>mānoa</u> | University Registrar, Office of the Registrar |
| | |
| | University Registrar, Office of the Registrar |
| | University Registrar, Office of the Registrar p: 808-956-8010 |
| | University Registrar, Office of the Registrar p: 808-956-8010 w: manoa.hawaii.edu/registrar |
| MĀNOA | University Registrar, Office of the Registrar p: 808-956-8010 w: manoa.hawaii.edu/registrar e: pxiong@hawaii.edu |
| MANOA MANOA MANOA | University Registrar, Office of the Registrar p: 808-956-8010 w: manoa.hawaii.edu/registrar e: pxiong@hawaii.edu rritory are represented in the student body and one of the ideals held by those who guide the University is that these students, working and playing together on our campus ses but to disseminate understanding of these differences, toleration for them, and goodwill. A challenge to us all! - H. MacNeil (University of Hawai'i Registrar - 1922 - 195 I message (including any attachments) is for the sole use of the intended recipient(s) and may contain confidential information |
| MANOA MANOA MANOA | University Registrar, Office of the Registrar p: 808-956-8010 w: manoa.hawaii.edu/registrar e: pxiong@hawaii.edu rritory are represented in the student body and one of the ideals held by those who guide the University is that these students, working and playing together on our campus res but to disseminate understanding of these differences, toleration for them, and goodwill. A challenge to us all! - H. MacNeil (University of Hawai'i Registrar - 1922 - 1955) I message (including any attachments) is for the sole use of the intended recipient(s) and may contain confidential information Educational Rights & Privacy Act (FERPA) and/or applicable state laws. If you received this email (including attachments) in e |
| MANOA MANOA MANOA | University Registrar, Office of the Registrar p: 808-956-8010 w: manoa.hawaii.edu/registrar e: pxiong@hawaii.edu rritory are represented in the student body and one of the ideals held by those who guide the University is that these students, working and playing together on our campus res but to disseminate understanding of these differences, toleration for them, and goodwill. A challenge to us all! - H. MacNeil (University of Hawai'i Registrar - 1922 - 1950 I message (including any attachments) is for the sole use of the intended recipient(s) and may contain confidential information Educational Rights & Privacy Act (FERPA) and/or applicable state laws. If you received this email (including attachments) in e |

| | | p: 808-956-8010 |
|--------------------|---|--|
| | | w: manoa.hawaii.edu/registrar |
| | | e: pxiong@hawaii.edu |
| | not to break down race div | s in the Territory are represented in the student body and one of the ideals held by those who guide the University is that these students, working and playing together on our campus, shall go out fferences but to disseminate understanding of these differences, toleration for them, and goodwill. A challenge to us all: - H. MacNeil (University of Hawai'i Registrar - 1922 - 1956) is email message (including any attachments) is for the sole use of the intended recipient(s) and may contain confidential information covered ducational Rights & Privacy Act (FERPA) and/or applicable state laws. If you received this email (including attachments) in error, please delete y me immediately. |
| | University of Hawai'i' Mānoa | Pheng Xiong, M.Ed. University Registrar, Office of the Registrar |
| | | w: manoa.hawaii.edu/registrar |
| | | e: pxiong@hawaii.edu |
| | | |
| brea FEI the | k down race differences but : RPA Notice: This em | Territory are represented in the student body and one of the ideals held by those who guide the University is that these students, working and playing together on our campus, shall go out not to to disseminate understanding of these differences, toleration for them, and goodwill. A challenge to us all - H. MacNeil (University of Hawai'i Registrar - 1922 - 1956) the all message (including any attachments) is for the sole use of the intended recipient(s) and may contain confidential information covered under Rights & Privacy Act (FERPA) and/or applicable state laws. If you received this email (including attachments) in error, please delete this email ely. |
| | | |
| | UNIVERSITY of HAWAI'I' MANOA | Pheng Xiong, M.Ed. Hear my name University Registrar, Office of the Registrar |
| | | p: 808-956-8010 |
| | | w: manoa.hawaii.edu/registrar |
| | | e: pxiong@hawaii.edu |
| | | |

The different racial groups in the Territory are represented in the student body and one of the ideals held by those who guide the University is that these students, working and playing together on our campus, shall go out not to break down race differences but to disseminate understanding of these differences, toleration for them, and goodwill. A challenge to us all! - H. MacNeil (University of Hawai'i Registrar - 1922 - 1956)

FERPA Notice: This email message (including any attachments) is for the sole use of the intended recipient(s) and may contain confidential information covered under the Family Educational Rights & Privacy Act (FERPA) and/or applicable state laws. If you received this email (including attachments) in error, please delete this email and notify me immediately.

Pheng Xiong <pxiong@hawaii.edu> To: Lynne Higa <lynnehig@hawaii.edu>

Cc: Álison R Sherwood <asherwoo@hawaii.edu>, April Quinn <agoodwin@hawaii.edu>, Rufus Willett_MATH <rufus@math.hawaii.edu>

Wed, Feb 23, 2022 at 11:18 AM

https://mail.google.com/mail/u/0/?ik=4c5a4b4032&view=pt&search=all&permthid=thread-f%3A1723788747772314499&dsqt=1&simpl=msg-f%3A17... 25/74

Hi Lynne (and Rufus)

I had drafted this text on the PCR to simply it for IRAO:

A new concentration code of CLSC is requested to distinguish from Computer Science (CSCI). Please note that Computational Science differs from Computer Science in that computer science is about the use of computers, their hardware, and software. Computational Science is related to science research using computation to solve problems.

If this works, I will include it in the request to IRAO.

| n Wed, Feb 23, 2022 at 10:35 AM Lynne Higa <lynnehig@hawaii.edu> wrote:</lynnehig@hawaii.edu> |
|---|
| Hi Max, |
| Rufus – please correct me if I am not explaining this well (or incorrectly). Computational science can be considered an interdisciplinary in nature in that it does involve knowledge of both mathematics and computer science. This computational science track heavily focuses on mathematical modeling/techniques and is reflected in the requirements for this track. The vast majority of the courses required for this track are MATH courses and not ICS courses. It is considered an applied math degree. |
| Lynne |
| From: Pheng Xiong <pxiong@hawaii.edu> Sent: Wednesday, February 23, 2022 10:14 AM To: Alison R Sherwood <asherwoo@hawaii.edu> Cc: Lynne Higa <lynnehig@hawaii.edu>; April Quinn <agoodwin@hawaii.edu>; Rufus Willett_MATH <rufus@math.hawaii.edu> Subject: Re: FW: Math Modifications</rufus@math.hawaii.edu></agoodwin@hawaii.edu></lynnehig@hawaii.edu></asherwoo@hawaii.edu></pxiong@hawaii.edu> |
| Forgot to add - just in case IRAO were to ask (they most likely will) - how does computational science differ from computer science? I'd like to make sure that this reques goes smoothly and without question from IRAO. |
| Max |
| On Wed, Feb 23, 2022 at 10:11 AM Pheng Xiong <pxiong@hawaii.edu> wrote: Hi Alison,</pxiong@hawaii.edu> |
| Actually COMP code is already taken - and so are others that I was thinking of. Can I suggest CLSC instead? |
| Max |
| On Wed, Feb 23, 2022 at 9:36 AM Alison R Sherwood <asherwoo@hawaii.edu> wrote: What about MATH-BS-COMP?</asherwoo@hawaii.edu> |
| Alison |
| Interim Associate Dean, College of Natural Sciences |
| Professor, School of Life Sciences |
| University of Hawai'i at Mānoa |
| http://sherwoodalgalbiodiversitylab.weebly.com/ |
| On Wed, Feb 23, 2022 at 8:18 AM Lynne Higa <lynnehig@hawaii.edu> wrote: Hi Max,</lynnehig@hawaii.edu> |
| We want to indicate the track is Computational Science. Sounds like the 4 letter code of CSCI won't work – I was hoping that the combination of the 3 codes (MATH-BS-CSCI) versus CSCI-BS) would allow it to be distinguished from the Computer Science degree, which is different from this new track in the BS Math degree. |
| Anyone have suggestions? |
| Lynne |

Ιſ

| 1 | Sent: To: Ly | : Pheng Xiong <pxiong@hawaii.edu> Wednesday, February 23, 2022 7:58 AM /nne Higa <lynnehig@hawaii.edu> lison R Sherwood <asherwoo@hawaii.edu>; April Nozomi Quinn <agoodwin@hawaii.edu>; Rufus Willett_MATH <rufus@math.hawaii.edu></rufus@math.hawaii.edu></agoodwin@hawaii.edu></asherwoo@hawaii.edu></lynnehig@hawaii.edu></pxiong@hawaii.edu> | | | | | | |
|---|--|---|--|--|--|--|--|--|
| 8 | Subje | set: Re: FW: Math Modifications | | | | | | |
| | | question - I noticed that the track name is 'computational science'. Since the CSCI code exists as 'computer science' are we fine that this will be the name yed on the student's academic record and STAR? | | | | | | |
| N | Лах | | | | | | | |
| | Dn W | ed, Feb 23, 2022 at 7:52 AM Pheng Xiong <pre>pxiong@hawaii.edu> wrote:</pre> | | | | | | |
| | Hi April and Lynne, | | | | | | | |
| | Yes - we will need to create a new concentration code for the new track. The memo should be fine. Thanks for the code suggestion Lynne - I'll use this one in the PCR to IRAO. | | | | | | | |
| | | | | | | | | |
| | L . | Tue, Feb 22, 2022 at 5:39 PM Lynne Higa <lynnehig@hawaii.edu> wrote: Hi Max,</lynnehig@hawaii.edu> | | | | | | |
| | | | | | | | | |
| | | Please let me know if there is anything I can do to assist with obtaining the concentration code for the new Computational Science track. I was thinking that MATH-BS-CSCI would be in keeping with the Data Science Track, unless it is problematic to use CSCI (which is also known as the Computer Science major). | | | | | | |
| | 1 | Lynne | | | | | | |
| | | From: April Nozomi Quinn <agoodwin@hawaii.edu> Sent: Monday, February 14, 2022 2:56 PM To: Lynne Higa <lynnehig@hawaii.edu> Cc: Max Xiong <pxiong@hawaii.edu>; A. Sherwood_CNS <asherwoo@hawaii.edu> Subject: Re: FW: Math Modifications</asherwoo@hawaii.edu></pxiong@hawaii.edu></lynnehig@hawaii.edu></agoodwin@hawaii.edu> | | | | | | |
| | | Hi Lynne, | | | | | | |
| | | Great question! | | | | | | |
| | | Max- do you need additional documentation or can you request the codes with this memo as back-up? | | | | | | |
| | | Thanks! | | | | | | |
| | | April | | | | | | |
| | | April Nozomi Quinn, PhD | | | | | | |
| | | Director of Program Development and Review | | | | | | |
| | | Office of the Vice Provost for Academic Excellence | | | | | | |
| | | University of Hawaii at Manoa | | | | | | |
| | | 2500 Campus Road, Hawaii Hall, 209 | | | | | | |
| | | Honolulu, HI 96822 | | | | | | |
| | | Office: (808) 956-4568 / Fax: (808) 956-7115 | | | | | | |
| | | http://www.manoa.hawaii.edu | | | | | | |
| | | | | | | | | |
| | | On Thu, Feb 10, 2022 at 12:47 PM Lynne Higa <lynnehig@hawaii.edu> wrote:</lynnehig@hawaii.edu> | | | | | | |
| | | Aloha Max and April, | | | | | | |
| | | What do we need to do to establish a concentration code for this newly approved track within the BS Math degree? | | | | | | |
| | | The current codes are: | | | | | | |

٦.

| PM | | | University of H | lawaii M | lail - Math Modifications | | |
|---|---|---|-------------------------|------------|-----------------------------------|--|--|
| | Mathematics - BS (0 | General) | MATH | | | | |
| | Mathematics - BS (I | Data Science) | MATH -BS | S-DSCI | | | |
| | Lynne | | | | | | |
| | From: Cynthia Tang <cntang@hawaii.edu> Sent: Thursday, February 3, 2022 2:04 PM To: Rufus Willett <rwillett@hawaii.edu> Cc: Aloysius Helminck <helminck@hawaii.edu>; Alison R Sherwood <asherwoo@hawaii.edu>; Lynne Higa <lynnehig@hawaii.edu>; Nikki Chun <nkchun@hawaii.edu>; Ryan Yamaguchi <rtyamagu@hawaii.edu>; Diane Nakashima <dianena@hawaii.edu>; Joy N Nishida <jnishida@hawaii.edu>; Max Xiong <pxiong@hawaii.edu>; Lisa Imai <lisaakam@hawaii.edu>; Stephanie Kailiawa <stephk@hawaii.edu>; Grant Kim <grantkim@hawaii.edu>; Pearl Iboshi <liboshi@hawaii.edu>; David Mongold <mongold@hawaii.edu>; Fiorella Penaloza <fpenaloz@hawaii.edu>; Megan Terawaki <megant@hawaii.edu>; Patty Bedoya <pbedoya@hawaii.edu>; Kevin Kaneshiro <kevinfk@hawaii.edu>; Alison Kanekuni <kanekuni@hawaii.edu>; Melanie Nishimura <mishimu@hawaii.edu>; April Quinn <agoodwin@hawaii.edu> Subject: Math Modifications</agoodwin@hawaii.edu></mishimu@hawaii.edu></kanekuni@hawaii.edu></kevinfk@hawaii.edu></pbedoya@hawaii.edu></megant@hawaii.edu></fpenaloz@hawaii.edu></mongold@hawaii.edu></liboshi@hawaii.edu></grantkim@hawaii.edu></stephk@hawaii.edu></lisaakam@hawaii.edu></pxiong@hawaii.edu></jnishida@hawaii.edu></dianena@hawaii.edu></rtyamagu@hawaii.edu></nkchun@hawaii.edu></lynnehig@hawaii.edu></asherwoo@hawaii.edu></helminck@hawaii.edu></rwillett@hawaii.edu></cntang@hawaii.edu> | | | | | | |
| | Aloha Rufus, | | | | | | |
| Attached for your appropriate attention are the copies of the approved program modifications: | | | | | | | |
| | Undergraduate Program Modification, BS in Mathematics, Data Science Track | | | | | | |
| | New Computational S | cience Track in the Mathema | atics BS | | | | |
| | These are your officia | l copies. | | | | | |
| | Should you have any | questions, please contact Ap | pril Quinn at agoodwin@ |)hawaii.eo | du (copied for your convenience). | | |
| | Thank you, | | | | | | |
| | Cynthia | | | | | | |
| | | | | | | | |
| | Cynthia N. Tang | | | | | | |
| | Administrative and Fi | scal Support Specialist | | | | | |
| | Office of the Provost | | | | | | |
| | University of Hawai'i at Mānoa 2500 Campus Road, Hawai'i Hall 307 | | | | | | |
| | Honolulu, HI 96822 | | | | | | |
| (808) 956-7486 / FAX (808) 956-5136 | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | UNIVERSITY of HAWAI'I" Mānoa | Pheng Xiong, M.Ed. University Registrar, Offic | Hear my name | | | | |
| | | p: 808-956-8010 | | | | | |
| | | w: manoa.hawaii.edu/reç | gistrar | | | | |
| | | e: pxiong@hawaii.edu | | | | | |
| | | | | | | | |

| go out not to break down FERPA Notice: Th covered under the | The different racial groups in the Territory are represented in the student body and one of the ideals held by those who guide the University is that these students, working and playing together on our campus, shall go out not to break down race differences but to disseminate understanding of these differences, toleration for them, and goodwill. A challenge to us all! - H. MacNeil (University of Hawai'i Registrar - 1922 - 1956) FERPA Notice: This email message (including any attachments) is for the sole use of the intended recipient(s) and may contain confidential information covered under the Family Educational Rights & Privacy Act (FERPA) and/or applicable state laws. If you received this email (including attachments) in error, please delete this email and notify me immediately. | | | | | |
|---|---|--|--|--|--|--|
| UNIVERSI of HAWAI MANOA | | | | | | |
| out not to break down race de FERPA Notice: This under the Family Edu | the Territory are represented in the student body and one of the ideals held by those who guide the University is that these students, working and playing together on our campus, shall go ifferences but to disseminate understanding of these differences, toleration for them, and goodwill. A challenge to us all! - H. MacNeil (University of Hawai'i Registrar - 1922 - 1956) email message (including any attachments) is for the sole use of the intended recipient(s) and may contain confidential information covered icational Rights & Privacy Act (FERPA) and/or applicable state laws. If you received this email (including attachments) in error, please notify me immediately. | | | | | |
| UNIVERSITY <u>of Hawai'i</u> <u>Mānoa</u> | Pheng Xiong, M.Ed. University Registrar, Office of the Registrar p: 808-956-8010 w: manoa.hawaii.edu/registrar | | | | | |
| break down race differences but to of FERPA Notice: This email | e: pxiong@hawaii.edu ritory are represented in the student body and one of the ideals held by those who guide the University is that these students, working and playing together on our campus, shall go out not to tisseminate understanding of these differences, toleration for them, and goodwill. A challenge to us all! - H. MacNeil (University of Hawai'i Registrar - 1922 - 1956) message (including any attachments) is for the sole use of the intended recipient(s) and may contain confidential information covered nal Rights & Privacy Act (FERPA) and/or applicable state laws. If you received this email (including attachments) in error, please delete this liately. | | | | | |
| University of Hawai'r | Pheng Xiong, M.Ed. Hearmy name | | | | | |

Pheng Xiong, M.Ed. Hear my name University Registrar, Office of the Registrar

Mānoa

| 2/23/22, 3:31 | University of Hawaii Mail - Math Modifications |
|------------------|--|
| | p: 808-956-8010 |
| | w: manoa.hawaii.edu/registrar |
| | e: pxiong@hawaii.edu |
| The different | |
| break down r | al groups in the Territory are represented in the student body and one of the ideals held by those who guide the University is that these students, working and playing together on our campus, shall go out not to differences but to disseminate understanding of these differences, toleration for them, and goodwill. A challenge to us all! - H. MacNeil (University of Hawai'i Registrar - 1922 - 1956) |
| the Famil | ce: This email message (including any attachments) is for the sole use of the intended recipient(s) and may contain confidential information covered under ducational Rights & Privacy Act (FERPA) and/or applicable state laws. If you received this email (including attachments) in error, please delete this email a immediately. |
| | |
| | VERSITY IAWAI'I: Pheng Xiong, M.Ed. Hear my name |
| The part land | University Registrar, Office of the Registrar |
| | p: 808-956-8010 w: manoa.hawaii.edu/registrar |
| | e: pxiong@hawaii.edu |
| | roups in the Territory are represented in the student body and one of the ideals held by those who guide the University is that these students, working and playing together on our campus, shall go out not to break es but to disseminate understanding of these differences, toleration for them, and goodwill. A challenge to us all! - H. MacNeil (University of Hawai'i Registrar - 1922 - 1956) |
| | s email message (including any attachments) is for the sole use of the intended recipient(s) and may contain confidential information covered under the Family Educational Rights & Privacy Act (FERPA) ate laws. If you received this email (including attachments) in error, please delete this email and notify me immediately. |
| | |
| Lynne Higa < | nehig@hawaii.edu> Wed, Feb 23, 2022 at 11:35 AM |
| | <pxiong@hawaii.edu> wood <asherwoo@hawaii.edu>, April Quinn <agoodwin@hawaii.edu>, Rufus Willett_MATH <rufus@math.hawaii.edu></rufus@math.hawaii.edu></agoodwin@hawaii.edu></asherwoo@hawaii.edu></pxiong@hawaii.edu> |
| Hi Max, | |
| | |
| That sounds | ay to me, but I'll let Rufus give the final okay. |
| Lynne | |
| | |
| Sent: Wedn | iong <pxiong@hawaii.edu> lay, February 23, 2022 11:19 AM</pxiong@hawaii.edu> |
| Cc: Álison F | lynnehig@hawaii.edu>herwood <asherwoo@hawaii.edu>; April Quinn <agoodwin@hawaii.edu>; Rufus Willett_MATH <rufus@math.hawaii.edu></rufus@math.hawaii.edu></agoodwin@hawaii.edu></asherwoo@hawaii.edu>W: Math Modifications |
| | |
| Hi Lynne (ar | Rufus) |
| I had drafted | is text on the PCR to simply it for IRAO: |
| | ation code of CLSC is requested to distinguish from Computer Science (CSCI). Please note that Computational Science differs from Computer Science in that ce is about the use of computers, their hardware, and software. Computational Science is related to science research using computation to solve problems. |
| If this works | vill include it in the request to IRAO. |
| On Wed, Fe | 3, 2022 at 10:35 AM Lynne Higa <lynnehig@hawaii.edu> wrote:</lynnehig@hawaii.edu> |
| Hi Max, | |
| Rufue - n | se correct me if I am not explaining this well (or incorrectly). Computational science can be considered an interdisciplinary in nature in that it does involve |
| knowledg | f both mathematics and computer science. This computational science track heavily focuses on mathematical modeling/techniques and is reflected in the s for this track. The vast majority of the courses required for this track are MATH courses and not ICS courses. It is considered an applied math degree. |

| From: Pheng Xiong <pxiong@hawaii.edu> Sent: Wednesday, February 23, 2022 10:14 AM To: Alison R Sherwood <asherwoo@hawaii.edu> Cc: Lynne Higa <lynnehig@hawaii.edu>; April Quinn <agoodwin@hawaii.edu>; Rufus Willett_MATH <rufus@math.hawaii.edu> Subject: Re: FW: Math Modifications</rufus@math.hawaii.edu></agoodwin@hawaii.edu></lynnehig@hawaii.edu></asherwoo@hawaii.edu></pxiong@hawaii.edu> |
|---|
| Forgot to add - just in case IRAO were to ask (they most likely will) - how does computational science differ from computer science? I'd like to make sure that this request goes smoothly and without question from IRAO. |
| Max |
| On Wed, Feb 23, 2022 at 10:11 AM Pheng Xiong <pxiong@hawaii.edu> wrote:</pxiong@hawaii.edu> |
| |
| Actually COMP code is already taken - and so are others that I was thinking of. Can I suggest CLSC instead? |
| Max |
| On Wed, Feb 23, 2022 at 9:36 AM Alison R Sherwood <asherwoo@hawaii.edu> wrote:</asherwoo@hawaii.edu> |
| What about MATH-BS-COMP? |
| Alison |
| |
| Interim Associate Dean, College of Natural Sciences |
| Professor, School of Life Sciences |
| |
| University of Hawai'i at Mānoa |
| http://sherwoodalgalbiodiversitylab.weebly.com/ |
| |
| On Wed, Feb 23, 2022 at 8:18 AM Lynne Higa <lynnehig@hawaii.edu> wrote:</lynnehig@hawaii.edu> |
| Hi Max, |
| We want to indicate the track is Computational Science. Sounds like the 4 letter code of CSCI won't work – I was hoping that the combination of the 3 codes (MATH-BS-CSCI) versus CSCI-BS) would allow it to be distinguished from the Computer Science degree, which is different from this new track in the BS Math degree. |
| Anyone have suggestions? |
| Lynne |
| From: Pheng Xiong <pxiong@hawaii.edu> Sent: Wednesday, February 23, 2022 7:58 AM To: Lynne Higa <lynnehig@hawaii.edu> Cc: Alison R Sherwood <asherwoo@hawaii.edu>; April Nozomi Quinn <agoodwin@hawaii.edu>; Rufus Willett_MATH <rufus@math.hawaii.edu> Subject: Re: FW: Math Modifications</rufus@math.hawaii.edu></agoodwin@hawaii.edu></asherwoo@hawaii.edu></lynnehig@hawaii.edu></pxiong@hawaii.edu> |
| Quick question - I noticed that the track name is 'computational science'. Since the CSCI code exists as 'computer science' are we fine that this will be the name displayed on the student's academic record and STAR? |
| Max |
| On Wed, Feb 23, 2022 at 7:52 AM Pheng Xiong <pre>pxiong@hawaii.edu> wrote:</pre> |

| Hi Apr | il and Lynne, |
|-------------------|--|
| | we will need to create a new concentration code for the new track. The memo should be fine. Thanks for the code suggestion Lynne - I'll use this one o IRAO. |
| On Tu | e, Feb 22, 2022 at 5:39 PM Lynne Higa <lynnehig@hawaii.edu> wrote:</lynnehig@hawaii.edu> |
| Hil | Max, |
| | ase let me know if there is anything I can do to assist with obtaining the concentration code for the new Computational Science track. I was thinking TH-BS-CSCI would be in keeping with the Data Science Track, unless it is problematic to use CSCI (which is also known as the Computer Science r |
| Lyn | ne |
| Ser To: Cc: | m: April Nozomi Quinn <agoodwin@hawaii.edu> nt: Monday, February 14, 2022 2:56 PM Lynne Higa <lynnehig@hawaii.edu> Max Xiong <pxiong@hawaii.edu>; A. Sherwood_CNS <asherwoo@hawaii.edu> oject: Re: FW: Math Modifications</asherwoo@hawaii.edu></pxiong@hawaii.edu></lynnehig@hawaii.edu></agoodwin@hawaii.edu> |
| Hil | _ynne, |
| | eat question! |
| | x- do you need additional documentation or can you request the codes with this memo as back-up? |
| | anks! |
| Apr | |
| Apr | il Nozomi Quinn, PhD |
| · · | |
| | ector of Program Development and Review |
| | ce of the Vice Provost for Academic Excellence |
| | versity of Hawaii at Manoa |
| | 10 Campus Road, Hawaii Hall, 209 |
| | nolulu, HI 96822 |
| | ce: (808) 956-4568 / Fax: (808) 956-7115 |
| http | ://www.manoa.hawaii.edu |
| On | Thu, Feb 10, 2022 at 12:47 PM Lynne Higa <lynnehig@hawaii.edu> wrote:</lynnehig@hawaii.edu> |
| 1 | Aloha Max and April, |
| ١ | What do we need to do to establish a concentration code for this newly approved track within the BS Math degree? |
| T | The current codes are: |
| | Mathematics - BS (General) MATH-BS |
| | Mathematics - BS (Data Science) MATH -BS-DSCI |
| | |
| | ynne |
| | From: Cynthia Tang <cntang@hawaii.edu> Sent: Thursday, February 3, 2022 2:04 PM fo: Rufus Willett <rwillett@hawaii.edu> Cc: Aloysius Helminck <helminck@hawaii.edu>; Alison R Sherwood <asherwoo@hawaii.edu>; Lynne Higa <lynnehig@hawaii.edu>; Nikki Chun <nkchun@hawaii.edu>; Ryan Yamaguchi <rtyamagu@hawaii.edu>; Diane Nakashima <dianena@hawaii.edu>; Joy N Nishida <jnishida@hawaii.edu>; Pe kiong <pxiong@hawaii.edu>; Lisa Imai <lisaakam@hawaii.edu>; Stephanie Kailiawa <stephk@hawaii.edu>; Grant Kim <grantkim@hawaii.edu>; Forella Penaloza <fpenaloz@hawaii.edu>; Megan Terawaki <megant@hawai< td=""></megant@hawai<></fpenaloz@hawaii.edu></grantkim@hawaii.edu></stephk@hawaii.edu></lisaakam@hawaii.edu></pxiong@hawaii.edu></jnishida@hawaii.edu></dianena@hawaii.edu></rtyamagu@hawaii.edu></nkchun@hawaii.edu></lynnehig@hawaii.edu></asherwoo@hawaii.edu></helminck@hawaii.edu></rwillett@hawaii.edu></cntang@hawaii.edu> |

| Attached for you | ir appropriate attention are the copies of the approved program modifications: |
|-------------------|---|
| Undergraduate I | Program Modification, BS in Mathematics, Data Science Track |
| New Computatio | onal Science Track in the Mathematics BS |
| These are your | official copies. |
| Should you have | e any questions, please contact April Quinn at agoodwin@hawaii.edu (copied for your convenience). |
| Thank you, | |
| Cynthia | |
| | |
| Cynthia N. Tang | ı |
| Administrative a | and Fiscal Support Specialist |
| Office of the Pro | vost |
| University of Ha | wai'i at Mānoa |
| 2500 Campus R | toad, Hawai'i Hall 307 |
| Honolulu, HI 96 | 822 |
| (808) 956-7486 | / FAX (808) 956-5136 |
| | |
| | |
| | Pheng Xiong, M.Ed. University Registrar, Office of the Registrar |
| | p: 808-956-8010 |
| | w: manoa.hawaii.edu/registrar |
| | e: pxiong@hawaii.edu |
| | |
| | |

 $https://mail.google.com/mail/u/0/?ik = 4c5a4b4032 \& view = pt \& search = all \& permthid = thread - f\% 3A1723788747772314499 \& dsqt = 1 \& simpl = msg - f\% 3A17 \dots 33/74 \& simpl = msg - f\% 3A17 \dots 3A17 \& simpl = msg - f\% 3A17 \dots 3A17 \& simpl = msg - f\% 3A17 \dots 3A17 \& simpl = msg - f\% 3A17 \& simpl = msg -$

| | | Pheng Xiong, M.Ed. University Registrar, Office of the Registrar p: 808-956-8010 w: manoa.hawaii.edu/registrar e: pxiong@hawaii.edu |
|----------------------|--|---|
| | out not to break down race FERPA Notice: Thi covered under the F | in the Territory are represented in the student body and one of the ideals held by those who guide the University is that these students, working and playing together on our campus, shall go differences but to disseminate understanding of these differences, toleration for them, and goodwill. A challenge to us all - H. MacNeil (University of Hawai'i Registrar - 1922 - 1956) is email message (including any attachments) is for the sole use of the intended recipient(s) and may contain confidential information Family Educational Rights & Privacy Act (FERPA) and/or applicable state laws. If you received this email (including attachments) in error, mail and notify me immediately. |
| _ | | Pheng Xiong, M.Ed. University Registrar, Office of the Registrar p: 808-956-8010 w: manoa.hawaii.edu/registrar e: pxiong@hawaii.edu |
| to bre FEF und | eak down race differences bu RPA Notice: This emains | Territory are represented in the student body and one of the ideals held by those who guide the University is that these students, working and playing together on our campus, shall go out not at to disseminate understanding of these differences, toleration for them, and goodwill. A challenge to us all! - H. MacNeil (University of Hawai'i Registrar - 1922 - 1956) ail message (including any attachments) is for the sole use of the intended recipient(s) and may contain confidential information covered ional Rights & Privacy Act (FERPA) and/or applicable state laws. If you received this email (including attachments) in error, please delete this ediately. |
| | | Pheng Xiong, M.Ed] University Registrar, Office of the Registrar |



e: pxiong@hawaii.edu

The different racial groups in the Territory are represented in the student body and one of the ideals held by those who guide the University is that these students, working and playing together on our campus, shall go out not to break down race differences but to disseminate understanding of these differences, toleration for them, and goodwill. A challenge to us all! - H. MacNeil (University of Hawai'i Registrar - 1922 - 1956)

FERPA Notice: This email message (including any attachments) is for the sole use of the intended recipient(s) and may contain confidential information covered under the Family Educational Rights & Privacy Act (FERPA) and/or applicable state laws. If you received this email (including attachments) in error, please delete this email and notify me immediately.

Rufus Willett <rufus@math.hawaii.edu>

To: Lynne Higa <lynnehig@hawaii.edu>, Pheng Xiong <pxiong@hawaii.edu> Cc: Alison R Sherwood <asherwoo@hawaii.edu>, April Quinn <agoodwin@hawaii.edu>

Hello all,

Thank you: this looks good to me.

Cheers,

Rufus

On 2/23/22 11:35 AM, Lynne Higa wrote:

Hi Max,

That sounds okay to me, but I'll let Rufus give the final okay.

Lynne

From: Pheng Xiong <pxiong@hawaii.edu> Sent: Wednesday, February 23, 2022 11:19 AM To: Lynne Higa <lynnehig@hawaii.edu> Wed, Feb 23, 2022 at 11:36 AM

Cc: Alison R Sherwood <asherwoo@hawaii.edu>; April Quinn <agoodwin@hawaii.edu>; Rufus Willett_MATH <rufus@math.hawaii.edu> Subject: Re: FW: Math Modifications

Hi Lynne (and Rufus)

I had drafted this text on the PCR to simply it for IRAO:

A new concentration code of CLSC is requested to distinguish from Computer Science (CSCI). Please note that Computational Science differs from Computer Science in that computer science is about the use of computers, their hardware, and software. Computational Science is related to science research using computation to solve problems.

If this works, I will include it in the request to IRAO.

On Wed, Feb 23, 2022 at 10:35 AM Lynne Higa <lynnehig@hawaii.edu> wrote:

Hi Max,

Rufus – please correct me if I am not explaining this well (or incorrectly). Computational science can be considered an interdisciplinary in nature in that it does involve knowledge of both mathematics and computer science. This computational science track heavily focuses on mathematical modeling/techniques and is reflected in the requirements for this track. The vast majority of the courses required for this track are MATH courses and not ICS courses. It is considered an applied math degree.

Lynne

From: Pheng Xiong <pxiong@hawaii.edu> Sent: Wednesday, February 23, 2022 10:14 AM To: Alison R Sherwood <asherwood@hawaii.edu> Cc: Lynne Higa <lynnehig@hawaii.edu>; April Quinn <agoodwin@hawaii.edu>; Rufus Willett_MATH <rufus@math.hawaii.edu> Subject: Re: FW: Math Modifications

Forgot to add - just in case IRAO were to ask (they most likely will) - how does computational science differ from computer science? I'd like to make sure that this request goes smoothly and without question from IRAO.

Max

On Wed, Feb 23, 2022 at 10:11 AM Pheng Xiong pxiong@hawaii.edu> wrote:

Hi Alison,

Actually COMP code is already taken - and so are others that I was thinking of. Can I suggest CLSC instead?

Max

On Wed, Feb 23, 2022 at 9:36 AM Alison R Sherwood <asherwoo@hawaii.edu> wrote:

What about MATH-BS-COMP?

Alison

Interim Associate Dean, College of Natural Sciences

Professor, School of Life Sciences

University of Hawai'i at Mānoa

http://sherwoodalgalbiodiversitylab.weebly.com/

On Wed, Feb 23, 2022 at 8:18 AM Lynne Higa <lynnehig@hawaii.edu> wrote:

Hi Max,

| 3 co | want to indicate the track is Computational Science. Sounds like the 4 letter code of CSCI won't work – I was hoping that the combination of odes (MATH-BS-CSCI) versus CSCI-BS) would allow it to be distinguished from the Computer Science degree, which is different from this new is in the BS Math degree. |
|-------------------|--|
| ٩ny | vone have suggestions? |
| _yn | ne |
| Ser To: Cc: | m: Pheng Xiong <pxiong@hawaii.edu> nt: Wednesday, February 23, 2022 7:58 AM Lynne Higa <lynnehig@hawaii.edu> Alison R Sherwood <asherwoo@hawaii.edu>; April Nozomi Quinn <agoodwin@hawaii.edu>; Rufus Willett_MATH <rufus@math.hawaii.edu> oject: Re: FW: Math Modifications</rufus@math.hawaii.edu></agoodwin@hawaii.edu></asherwoo@hawaii.edu></lynnehig@hawaii.edu></pxiong@hawaii.edu> |
| | ick question - I noticed that the track name is 'computational science'. Since the CSCI code exists as 'computer science' are we fine that this w name displayed on the student's academic record and STAR? |
| Ma | x |
| Эn | Wed, Feb 23, 2022 at 7:52 AM Pheng Xiong <pre>pxiong@hawaii.edu> wrote:</pre> |
| ŀ | Hi April and Lynne, |
| | Yes - we will need to create a new concentration code for the new track. The memo should be fine. Thanks for the code suggestion Lynne - I'll his one in the PCR to IRAO. |
| 0 | Dn Tue, Feb 22, 2022 at 5:39 PM Lynne Higa <lynnehig@hawaii.edu> wrote:</lynnehig@hawaii.edu> |
| | Hi Max, |
| | Please let me know if there is anything I can do to assist with obtaining the concentration code for the new Computational Science track. I thinking that MATH-BS-CSCI would be in keeping with the Data Science Track, unless it is problematic to use CSCI (which is also known as Computer Science major). |
| | Lynne |
| | From: April Nozomi Quinn <agoodwin@hawaii.edu> Sent: Monday, February 14, 2022 2:56 PM To: Lynne Higa <lynnehig@hawaii.edu> Cc: Max Xiong <pxiong@hawaii.edu>; A. Sherwood_CNS <asherwoo@hawaii.edu> Subject: Re: FW: Math Modifications</asherwoo@hawaii.edu></pxiong@hawaii.edu></lynnehig@hawaii.edu></agoodwin@hawaii.edu> |
| | Hi Lynne, |
| | Great question! |
| | Max- do you need additional documentation or can you request the codes with this memo as back-up? |
| | Thanks! |
| | April |
| | April Nozomi Quinn, PhD |
| | Director of Program Development and Review |
| | |
| | Office of the Vice Provost for Academic Excellence |
| | Office of the Vice Provost for Academic Excellence University of Hawaii at Manoa |
| | |
| | University of Hawaii at Manoa |
| | University of Hawaii at Manoa 2500 Campus Road, Hawaii Hall, 209 |

| What do we need to do to establish a concentration | code for this newly approved track within the BS Math degree? |
|--|---|
| | |
| The current codes are: | |
| Mathematics - BS (General) | MATH-BS |
| Mathematics - BS (Data Science) | MATH -BS-DSCI |
| | |
| Lynne | |
| Chun <nkchun@hawaii.edu>; Ryan Yamaguchi <rtya <jnishida@hawaii.edu>; Max Xiong <pxiong@hawaii Grant Kim <grantkim@hawaii.edu>; Pearl Iboshi <ibo <fpenaloz@hawaii.edu>; Megan Terawaki <megant@< td=""><td>son R Sherwood <asherwoo@hawaii.edu>; Lynne Higa <lynnehig@haw amagu@hawaii.edu>; Diane Nakashima <dianena@hawaii.edu>; Joy N i.edu>; Lisa Imai <lisaakam@hawaii.edu>; Stephanie Kailiawa <stephk(oshi@hawaii.edu>; David Mongold <mongold@hawaii.edu>; Fiorella Pe @hawaii.edu>; Patty Bedoya <pbedoya@hawaii.edu>; Kevin Kaneshiro @hawaii.edu>; Melanie Nishimura <mnishimu@hawaii.edu>; April Quinn</mnishimu@hawaii.edu></pbedoya@hawaii.edu></mongold@hawaii.edu></stephk(</lisaakam@hawaii.edu></dianena@hawaii.edu></lynnehig@haw </asherwoo@hawaii.edu></td></megant@<></fpenaloz@hawaii.edu></ibo </grantkim@hawaii.edu></pxiong@hawaii </jnishida@hawaii.edu></rtya </nkchun@hawaii.edu> | son R Sherwood <asherwoo@hawaii.edu>; Lynne Higa <lynnehig@haw amagu@hawaii.edu>; Diane Nakashima <dianena@hawaii.edu>; Joy N i.edu>; Lisa Imai <lisaakam@hawaii.edu>; Stephanie Kailiawa <stephk(oshi@hawaii.edu>; David Mongold <mongold@hawaii.edu>; Fiorella Pe @hawaii.edu>; Patty Bedoya <pbedoya@hawaii.edu>; Kevin Kaneshiro @hawaii.edu>; Melanie Nishimura <mnishimu@hawaii.edu>; April Quinn</mnishimu@hawaii.edu></pbedoya@hawaii.edu></mongold@hawaii.edu></stephk(</lisaakam@hawaii.edu></dianena@hawaii.edu></lynnehig@haw </asherwoo@hawaii.edu> |
| Aloha Rufus, | |
| Attached for your appropriate attention are the copies | s of the approved program modifications: |
| Undergraduate Program Modification, BS in Mathem | atics, Data Science Track |
| New Computational Science Track in the Mathematic | os BS |
| These are your official copies. | |
| Should you have any questions, please contact April | Quinn at agoodwin@hawaii.edu (copied for your convenience). |
| Thank you, | |
| Cynthia | |
| | |
| | |
| Cynthia N. Tang | |
| Cynthia N. Tang Administrative and Fiscal Support Specialist | |
| | |
| Administrative and Fiscal Support Specialist | |
| Administrative and Fiscal Support Specialist Office of the Provost | |

| lents, working and playing together on llenge to us all! - H. MacNeil (University d may contain confidential u received this email |
|--|
| |
| s, working and playing together on our o us all! - H. MacNeil (University of nay contain confidential eceived this email (including |
| |

| | Pheng Xiong, M.EdJ University Registrar, Office of the Registrar p: 808-956-8010 w: manoa.hawaii.edu/registrar |
|--|---|
| shall go out not to break down race of 1922 - 1956) FERPA Notice: This email covered under the Family f | e: pxiong@hawaii.edu ritory are represented in the student body and one of the ideals held by those who guide the University is that these students, working and playing together on our campus, differences but to disseminate understanding of these differences, toleration for them, and goodwill. A challenge to us all! - H. MacNeil (University of Hawai'i Registrar - message (including any attachments) is for the sole use of the intended recipient(s) and may contain confidential information Educational Rights & Privacy Act (FERPA) and/or applicable state laws. If you received this email (including attachments) in hail and notify me immediately. |
| ן א ע ע | Pheng Xiong, M.Ed] Jniversity Registrar, Office of the Registrar 2: 808-956-8010 2: manoa.hawaii.edu/registrar 2: pxiong@hawaii.edu |
| shall go out not to break down race diffe 1956) FERPA Notice: This email m | ry are represented in the student body and one of the ideals held by those who guide the University is that these students, working and playing together on our campus, srences but to disseminate understanding of these differences, toleration for them, and goodwill. A challenge to us all - H. MacNeil (University of Hawai'i Registrar - 1922 - essage (including any attachments) is for the sole use of the intended recipient(s) and may contain confidential information ucational Rights & Privacy Act (FERPA) and/or applicable state laws. If you received this email (including attachments) in I and notify me immediately. |

Pheng Xiong, M.Ed. _____ University Registrar, Office of the Registrar

p: 808-956-8010

w: manoa.hawaii.edu/registrar

e: pxiong@hawaii.edu

The different racial groups in the Territory are represented in the student body and one of the ideals held by those who guide the University is that these students, working and playing together on our campus, shall go out not to break down race differences but to disseminate understanding of these differences, toleration for them, and goodwill. A challenge to us all! - H. MacNeil (University of Hawaiï Registrar - 1922 - 1956)

FERPA Notice: This email message (including any attachments) is for the sole use of the intended recipient(s) and may contain confidential information covered under the Family Educational Rights & Privacy Act (FERPA) and/or applicable state laws. If you received this email (including attachments) in error, please delete this email and notify me immediately.

--Rufus Willett Professor and Chair, Mathematics University of Hawai'i at Mānoa Pronouns: he / him

Pheng Xiong <pxiong@hawaii.edu> To: Rufus Willett <rufus@math.hawaii.edu>

Cc: Lynne Higa <lynnehig@hawaii.edu>, Alison R Sherwood <asherwoo@hawaii.edu>, April Quinn <agoodwin@hawaii.edu>

Thanks Rufus and Lynne.

April if this sounds good to you too, I will submit the PCR to IRAO with the explanation for the new concentration code.

Max

On Wed, Feb 23, 2022 at 11:36 AM Rufus Willett <rufus@math.hawaii.edu> wrote:

Hello all,

Thank you: this looks good to me.

Cheers.

Rufus

On 2/23/22 11:35 AM, Lynne Higa wrote:

Hi Max,

That sounds okay to me, but I'll let Rufus give the final okay.

Lynne

From: Pheng Xiong <pxiong@hawaii.edu> Sent: Wednesday, February 23, 2022 11:19 AM To: Lynne Higa lynnehig@hawaii.edu> Cc: Alison R Sherwood <asherwoo@hawaii.edu>; April Quinn <agoodwin@hawaii.edu>; Rufus Willett_MATH <rufus@math.hawaii.edu> Subject: Re: FW: Math Modifications

Hi Lynne (and Rufus)

I had drafted this text on the PCR to simply it for IRAO:

A new concentration code of CLSC is requested to distinguish from Computer Science (CSCI). Please note that Computational Science differs from Computer Science in that computer science is about the use of computers, their hardware, and software. Computational Science is related to science research using computation to solve problems.

Wed, Feb 23, 2022 at 11:39 AM

| If this works, I will include it in the request to IRAO. | |
|--|--|
|--|--|

On Wed, Feb 23, 2022 at 10:35 AM Lynne Higa <lynnehig@hawaii.edu> wrote:

Hi Max,

Rufus – please correct me if I am not explaining this well (or incorrectly). Computational science can be considered an interdisciplinary in nature in that it does involve knowledge of both mathematics and computer science. This computational science track heavily focuses on mathematical modeling/techniques and is reflected in the requirements for this track. The vast majority of the courses required for this track are MATH courses and not ICS courses. It is considered an applied math degree.

Lynne

From: Pheng Xiong <pxiong@hawaii.edu> Sent: Wednesday, February 23, 2022 10:14 AM To: Alison R Sherwood <asherwoo@hawaii.edu> Cc: Lynne Higa <lynnehig@hawaii.edu>; April Quinn <agoodwin@hawaii.edu>; Rufus Willett_MATH <rufus@math.hawaii.edu> Subject: Re: FW: Math Modifications

Forgot to add - just in case IRAO were to ask (they most likely will) - how does computational science differ from computer science? I'd like to make sure that this request goes smoothly and without question from IRAO.

Max

On Wed, Feb 23, 2022 at 10:11 AM Pheng Xiong pxiong@hawaii.edu> wrote:

Hi Alison,

Actually COMP code is already taken - and so are others that I was thinking of. Can I suggest CLSC instead?

Max

On Wed, Feb 23, 2022 at 9:36 AM Alison R Sherwood <asherwoo@hawaii.edu> wrote:

What about MATH-BS-COMP?

Alison

Interim Associate Dean, College of Natural Sciences

Professor, School of Life Sciences

University of Hawai'i at Mānoa

http://sherwoodalgalbiodiversitylab.weebly.com/

On Wed, Feb 23, 2022 at 8:18 AM Lynne Higa <lynnehig@hawaii.edu> wrote:

Hi Max,

We want to indicate the track is Computational Science. Sounds like the 4 letter code of CSCI won't work – I was hoping that the combination of the 3 codes (MATH-BS-CSCI) versus CSCI-BS) would allow it to be distinguished from the Computer Science degree, which is different from this new track in the BS Math degree.

Anyone have suggestions?

Lynne

From: Pheng Xiong pxiong@hawaii.edu>
Sent: Wednesday, February 23, 2022 7:58 AM

| Co | :: Lynne Higa <lynnehig@hawaii.edu> :: Alison R Sherwood <asherwoo@hawaii.edu>; April Nozomi Quinn <agoodwin@hawaii.edu>; Rufus Willett_MATH <rufus@math.hawaii.edu> ɪbject: Re: FW: Math Modifications</rufus@math.hawaii.edu></agoodwin@hawaii.edu></asherwoo@hawaii.edu></lynnehig@hawaii.edu> |
|----|--|
| | uick question - I noticed that the track name is 'computational science'. Since the CSCI code exists as 'computer science' are we fine that this v the name displayed on the student's academic record and STAR? |
| Ma | ax |
| Or | n Wed, Feb 23, 2022 at 7:52 AM Pheng Xiong <pxiong@hawaii.edu> wrote:</pxiong@hawaii.edu> |
| | Hi April and Lynne, |
| | Yes - we will need to create a new concentration code for the new track. The memo should be fine. Thanks for the code suggestion Lynne - I'l use this one in the PCR to IRAO. |
| | On Tue, Feb 22, 2022 at 5:39 PM Lynne Higa <lynnehig@hawaii.edu> wrote:</lynnehig@hawaii.edu> |
| | Hi Max, |
| | Please let me know if there is anything I can do to assist with obtaining the concentration code for the new Computational Science track. I was thinking that MATH-BS-CSCI would be in keeping with the Data Science Track, unless it is problematic to use CSCI (which is also known as the Computer Science major). |
| | Lynne |
| | From: April Nozomi Quinn <agoodwin@hawaii.edu> Sent: Monday, February 14, 2022 2:56 PM To: Lynne Higa <lynnehig@hawaii.edu> Cc: Max Xiong <pxiong@hawaii.edu>; A. Sherwood_CNS <asherwoo@hawaii.edu> Subject: Re: FW: Math Modifications</asherwoo@hawaii.edu></pxiong@hawaii.edu></lynnehig@hawaii.edu></agoodwin@hawaii.edu> |
| | Hi Lynne, |
| | Great question! Max- do you need additional documentation or can you request the codes with this memo as back-up? |
| | Thanks! |
| | April |
| | April Nozomi Quinn, PhD |
| | Director of Program Development and Review |
| | Office of the Vice Provost for Academic Excellence |
| | University of Hawaii at Manoa 2500 Campus Road, Hawaii Hall, 209 |
| | Honolulu, HI 96822 |
| | Office: (808) 956-4568 / Fax: (808) 956-7115 |
| | http://www.manoa.hawaii.edu |
| | |
| | On Thu, Feb 10, 2022 at 12:47 PM Lynne Higa <lynnehig@hawaii.edu> wrote:</lynnehig@hawaii.edu> |
| | Aloha Max and April, |
| | What do we need to do to establish a concentration code for this newly approved track within the BS Math degree? |
| | |
| | The current codes are: |

| 2/23/22, 3:31 PM | University of Hawaii Mail - Math Modifications |
|------------------|--|
| | Mathematics - BS (Data Science) MATH -BS-DSCI |
| | |
| | Lynne |
| | From: Cynthia Tang <cntang@hawaii.edu> Sent: Thursday, February 3, 2022 2:04 PM To: Rufus Willett <rwillett@hawaii.edu> Cc: Aloysius Helminck <helminck@hawaii.edu>; Alison R Sherwood <asherwoo@hawaii.edu>; Lynne Higa <lynnehig@hawaii.edu>; Nikki Chun <nkchun@hawaii.edu>; Ryan Yamaguchi <rtyamagu@hawaii.edu>; Diane Nakashima <dianena@hawaii.edu>; Joy N Nishida <jnishida@hawaii.edu>; Max Xiong <pxiong@hawaii.edu>; Lisa Imai <lisaakam@hawaii.edu>; Stephanie Kailiawa <stephk@hawaii.edu>; Grant Kim <grantkim@hawaii.edu>; Pearl Iboshi <liboshi@hawaii.edu>; David Mongold <mongold@hawaii.edu>; Kovin Kaneshiro <kevinfk@hawaii.edu>; Alison Kanekuni <kanekuni@hawaii.edu>; Melanie Nishimura <mnishimu@hawaii.edu>; April Quinn <agoodwin@hawaii.edu> Subject: Math Modifications</agoodwin@hawaii.edu></mnishimu@hawaii.edu></kanekuni@hawaii.edu></kevinfk@hawaii.edu></mongold@hawaii.edu></liboshi@hawaii.edu></grantkim@hawaii.edu></stephk@hawaii.edu></lisaakam@hawaii.edu></pxiong@hawaii.edu></jnishida@hawaii.edu></dianena@hawaii.edu></rtyamagu@hawaii.edu></nkchun@hawaii.edu></lynnehig@hawaii.edu></asherwoo@hawaii.edu></helminck@hawaii.edu></rwillett@hawaii.edu></cntang@hawaii.edu> |
| | Aloha Rufus, |
| | Attached for your appropriate attention are the copies of the approved program modifications: |
| | Undergraduate Program Modification, BS in Mathematics, Data Science Track |
| | New Computational Science Track in the Mathematics BS |
| | These are your official copies. |
| | Should you have any questions, please contact April Quinn at agoodwin@hawaii.edu (copied for your convenience). |
| | Thank you, |
| | Cynthia |
| | |
| | Cynthia N. Tang |
| | Administrative and Fiscal Support Specialist |
| | Office of the Provost |
| | University of Hawai'i at Mānoa |
| | 2500 Campus Road, Hawai'i Hall 307 Honolulu, HI 96822 |
| | (808) 956-7486 / FAX (808) 956-5136 |
| | |
| | |
| | |
| | |
| | Pheng Xiong, M.Ed] University Registrar, Office of the Registrar |
| | |
| | p: 808-956-8010 |
| | w: manoa.hawaii.edu/registrar |

e: pxiong@hawaii.edu The different racial groups in the Territory are represented in the student body and one of the ideals held by those who quide the University is that these students, working and playing together on our campus, shall go out not to break down race differences but to disseminate understanding of these differences, toleration for them, and goodwill. A challenge to us all! - H. MacNeil (University of Hawai'i Registrar - 1922 - 1956) FERPA Notice: This email message (including any attachments) is for the sole use of the intended recipient(s) and may contain confidential information covered under the Family Educational Rights & Privacy Act (FERPA) and/or applicable state laws. If you received this email (including attachments) in error, please delete this email and notify me immediately. Pheng Xiong, M.Ed. University Registrar, Office of the Registrar p: 808-956-8010 w: manoa.hawaii.edu/registrar e: pxiong@hawaii.edu The different racial groups in the Territory are represented in the student body and one of the ideals held by those who guide the University is that these students, working and playing together on our campus, shall go out not to break down race differences but to disseminate understanding of these differences, toleration for them, and goodwill. A challenge to us all! - H. MacNeil (University of Hawai'i Registrar - 1922 - 1956) FERPA Notice: This email message (including any attachments) is for the sole use of the intended recipient(s) and may contain confidential information covered under the Family Educational Rights & Privacy Act (FERPA) and/or applicable state laws. If you received this email (including attachments) in error, please delete this email and notify me immediately. Pheng Xiong, M.Ed. University Registrar, Office of the Registrar p: 808-956-8010 w: manoa.hawaii.edu/registrar e: pxiong@hawaii.edu

| | ritory are represented in the student body and one of the ideals held by those who guide the University is that these students, working and playing together on our wn race differences but to disseminate understanding of these differences, toleration for them, and goodwill. A challenge to us all! - H. MacNeil (University of Hawai'i |
|-----------------------------|--|
| information covered under t | message (including any attachments) is for the sole use of the intended recipient(s) and may contain confidential the Family Educational Rights & Privacy Act (FERPA) and/or applicable state laws. If you received this email (including se delete this email and notify me immediately. |
| | |
| - | |
| | |
| PU | Pheng Xiong, M.Ed] Jniversity Registrar, Office of the Registrar |
| p | x 808-956-8010 |
| w | v: manoa.hawaii.edu/registrar |
| e | e: pxiong@hawaii.edu |
| | |
| | |
| | y are represented in the student body and one of the ideals held by those who guide the University is that these students, working and playing together on our campus, rences but to disseminate understanding of these differences, toleration for them, and goodwill. A challenge to us all! - H. MacNeil (University of Hawai'i Registrar - |
| | essage (including any attachments) is for the sole use of the intended recipient(s) and may contain confidential information icational Rights & Privacy Act (FERPA) and/or applicable state laws. If you received this email (including attachments) in and notify me immediately. |
| | |
| | |
| - | |
| | |
| Phe Univ | eng Xiong, M.Ed. |
| p: ٤ | 308-956-8010 |
| w: 1 | manoa.hawaii.edu/registrar |
| e: r | oxiong@hawaii.edu |
| | |
| | re represented in the student body and one of the ideals held by those who guide the University is that these students, working and playing together on our campus, ces but to disseminate understanding of these differences, toleration for them, and goodwill. A challenge to us all! - H. MacNeil (University of Hawai'i Registrar - 1922 - |

FERPA Notice: This email message (including any attachments) is for the sole use of the intended recipient(s) and may contain confidential information covered under the Family Educational Rights & Privacy Act (FERPA) and/or applicable state laws. If you received this email (including attachments) in



error, please delete this email and notify me immediately.

The different racial groups in the Territory are represented in the student body and one of the ideals held by those who guide the University is that these students, working and playing together on our campus, shall go out not to break down race differences but to disseminate understanding of these differences, toleration for them, and goodwill. A challenge to us all! - H. MacNeil (University of Hawai'i Registrar - 1922 - 1956)

FERPA Notice: This email message (including any attachments) is for the sole use of the intended recipient(s) and may contain confidential information covered under the Family Educational Rights & Privacy Act (FERPA) and/or applicable state laws. If you received this email (including attachments) in error, please delete this email and notify me immediately.

April Nozomi Quinn <agoodwin@hawaii.edu> To: Pheng Xiong <pxiong@hawaii.edu>

Cc: Rufus Willett <rufus@math.hawaii.edu>, Lynne Higa <lynnehig@hawaii.edu>, Alison R Sherwood <asherwoo@hawaii.edu>

Aloha,

Apologies for coming late to this discussion. Just to confirm, I am comfortable with this approach, but want to confirm that the CIP code (used by NCES to track all academic programs) for Computational Science is aligned with 30.3001 below (and not 11.0701). Is this accurate? Thank you! April

Detail for CIP Code 30.3001

Title: Computational Science.

Definition: A program that focuses on the study of scientific computing and its application. Includes instruction in scientific visualization, multi-scale analysis, grid generation, data analysis, applied mathematics, numerical algorithms, high performance parallel computing, and numerical modeling and simulation with applications in science, engineering and other disciplines in which computation plays an integral role.

Detail for CIP Code 11.0701

Title: Computer Science.

http://www.manoa.hawaii.edu

Definition: A program that focuses on computer theory, computing problems and solutions, and the design of computer systems and user interfaces from a scientific perspective. Includes instruction in the principles of computational science, computer development and programming, and applications to a variety of end-use situations.

April Nozomi Quinn, PhD Director of Program Development and Review Office of the Vice Provost for Academic Excellence University of Hawaii at Manoa 2500 Campus Road, Hawaii Hall, 209 Honolulu, HI 96822 Office: (808) 956-4568 / Fax: (808) 956-7115

April if this sounds good to you too, I will submit the PCR to IRAO with the explanation for the new concentration code.

| N | Лах |
|---|---|
| C | Dn Wed, Feb 23, 2022 at 11:36 AM Rufus Willett <rufus@math.hawaii.edu> wrote:</rufus@math.hawaii.edu> |
| | Hello all, |
| | Thank you: this looks good to me. |
| | Cheers, |
| | Rufus |
| | On 2/23/22 11:35 AM, Lynne Higa wrote: |
| | Hi Max |

Wed, Feb 23, 2022 at 12:32 PM

Print

Print

That sounds okay to me, but I'll let Rufus give the final okay.

Lynne

| From: Pheng Xiong <pxiong@hawaii.edu> Sent: Wednesday, February 23, 2022 11:19 AM To: Lynne Higa <lynnehig@hawaii.edu> Cc: Alison R Sherwood <asherwoo@hawaii.edu>; April Quinn <agoodwin@hawaii.edu>; Rufus Willett_MATH <rufus@math.hawaii.edu> Subject: Re: FW: Math Modifications</rufus@math.hawaii.edu></agoodwin@hawaii.edu></asherwoo@hawaii.edu></lynnehig@hawaii.edu></pxiong@hawaii.edu> |
|---|
| Hi Lynne (and Rufus) |
| I had drafted this text on the PCR to simply it for IRAO: |
| A new concentration code of CLSC is requested to distinguish from Computer Science (CSCI). Please note that Computational Science differs from Computer Science in that computer science is about the use of computers, their hardware, and software. Computational Science is related to science research using computation to solve problems. |
| If this works, I will include it in the request to IRAO. |
| On Wed, Feb 23, 2022 at 10:35 AM Lynne Higa <lynnehig@hawaii.edu> wrote:</lynnehig@hawaii.edu> |
| Hi Max, |
| Rufus – please correct me if I am not explaining this well (or incorrectly). Computational science can be considered an interdisciplinary in nature in that it does involve knowledge of both mathematics and computer science. This computational science track heavily focuses on mathematical modeling/techniques and is reflected in the requirements for this track. The vast majority of the courses required for this track are MATH courses and not ICS courses. It is considered an applied math degree. |
| Lynne |
| From: Pheng Xiong <pxiong@hawaii.edu> Sent: Wednesday, February 23, 2022 10:14 AM To: Alison R Sherwood <asherwoo@hawaii.edu> Cc: Lynne Higa <lynnehig@hawaii.edu>; April Quinn <agoodwin@hawaii.edu>; Rufus Willett_MATH <rufus@math.hawaii.edu> Subject: Re: FW: Math Modifications</rufus@math.hawaii.edu></agoodwin@hawaii.edu></lynnehig@hawaii.edu></asherwoo@hawaii.edu></pxiong@hawaii.edu> |
| Forgot to add - just in case IRAO were to ask (they most likely will) - how does computational science differ from computer science? I'd like to make sure that this request goes smoothly and without question from IRAO. |
| Max |
| On Wed, Feb 23, 2022 at 10:11 AM Pheng Xiong <pxiong@hawaii.edu> wrote: Hi Alison,</pxiong@hawaii.edu> |
| Actually COMP code is already taken - and so are others that I was thinking of. Can I suggest CLSC instead? |
| Мах |
| On Wed, Feb 23, 2022 at 9:36 AM Alison R Sherwood <asherwoo@hawaii.edu> wrote: What about MATH-BS-COMP?</asherwoo@hawaii.edu> |
| Alison |

Interim Associate Dean, College of Natural Sciences

--

| 22, 0.01110 | |
|-------------|---|
| | Professor, School of Life Sciences |
| | University of Hawai'i at Mānoa |
| | http://sherwoodalgalbiodiversitylab.weebly.com/ |
| | |
| | On Wed, Feb 23, 2022 at 8:18 AM Lynne Higa <lynnehig@hawaii.edu> wrote:</lynnehig@hawaii.edu> |
| | Hi Max, |
| | We want to indicate the track is Computational Science. Sounds like the 4 letter code of CSCI won't work – I was hoping that the combination of the 3 codes (MATH-BS-CSCI) versus CSCI-BS) would allow it to be distinguished from the Computer Science degree, which is different from this new track in the BS Math degree. |
| | Anyone have suggestions? |
| | Lynne |
| | From: Pheng Xiong <pxiong@hawaii.edu> Sent: Wednesday, February 23, 2022 7:58 AM To: Lynne Higa <lynnehig@hawaii.edu> Cc: Alison R Sherwood <asherwoo@hawaii.edu>; April Nozomi Quinn <agoodwin@hawaii.edu>; Rufus Willett_MATH <rufus@math.hawaii.edu> Subject: Re: FW: Math Modifications</rufus@math.hawaii.edu></agoodwin@hawaii.edu></asherwoo@hawaii.edu></lynnehig@hawaii.edu></pxiong@hawaii.edu> |
| | Quick question - I noticed that the track name is 'computational science'. Since the CSCI code exists as 'computer science' are we fine that this will be the name displayed on the student's academic record and STAR? |
| | Max |
| | On Wed, Feb 23, 2022 at 7:52 AM Pheng Xiong <pxiong@hawaii.edu> wrote:</pxiong@hawaii.edu> |
| | Hi April and Lynne, |
| | |
| | Yes - we will need to create a new concentration code for the new track. The memo should be fine. Thanks for the code suggestion Lynne - I'll use this one in the PCR to IRAO. |
| | On Tue, Feb 22, 2022 at 5:39 PM Lynne Higa <lynnehig@hawaii.edu> wrote:</lynnehig@hawaii.edu> |
| | Hi Max, |
| | Please let me know if there is anything I can do to assist with obtaining the concentration code for the new Computational Science track. I was thinking that MATH-BS-CSCI would be in keeping with the Data Science Track, unless it is problematic to use CSCI (which is also known as the Computer Science major). |
| | Lynne |
| | From: April Nozomi Quinn <agoodwin@hawaii.edu> Sent: Monday, February 14, 2022 2:56 PM To: Lynne Higa <lynnehig@hawaii.edu> Cc: Max Xiong <pxiong@hawaii.edu>; A. Sherwood_CNS <asherwoo@hawaii.edu> Subject: Re: FW: Math Modifications</asherwoo@hawaii.edu></pxiong@hawaii.edu></lynnehig@hawaii.edu></agoodwin@hawaii.edu> |
| | Hi Lynne, |
| | Great question! |
| | Max- do you need additional documentation or can you request the codes with this memo as back-up? |
| | Thanks! |
| | April |
| | |
| | April Nozomi Quinn, PhD Director of Program Development and Review |
| | |

| Office of the Vice Provost for Academic Excellence | | |
|---|---|--|
| University of Hawaii at Manoa | | |
| 2500 Campus Road, Hawaii Hall, 209 | | |
| Honolulu, HI 96822 | | |
| Office: (808) 956-4568 / Fax: (808) 956-7115 | | |
| http://www.manoa.hawaii.edu | | |
| On Thu, Feb 10, 2022 at 12:47 PM Lynne Higa < <u>lynnehig@haw</u> | ali adus urata: | |
| | | |
| Aloha Max and April, | | |
| What do we need to do to establish a concentration code for t | this newly approved t | track within the BS Math degree? |
| The current codes are: | | |
| Mathematics - BS (General) | MATH-BS | |
| Mathematics - BS (Data Science) | MATH -BS-DSCI | |
| | | |
| | | |
| Luna | | |
| Lynne | | |
| From: Cynthia Tang <cntang@hawaii.edu> Sent: Thursday, February 3, 2022 2:04 PM To: Rufus Willett <rwillett@hawaii.edu> Cc: Aloysius Helminck <helminck@hawaii.edu>; Alison R Shu Nikki Chun <nkchun@hawaii.edu>; Ryan Yamaguchi <rtyama Nishida <jnishida@hawaii.edu>; Max Xiong <pxiong@hawaii. <stephk@hawaii.edu>; Grant Kim <grantkim@hawaii.edu>; F Fiorella Penaloza <fpenaloz@hawaii.edu>; Alison Kanekuni <kanekun <agoodwin@hawaii.edu> Subject: Math Modifications</agoodwin@hawaii.edu></kanekun </fpenaloz@hawaii.edu></grantkim@hawaii.edu></stephk@hawaii.edu></pxiong@hawaii. </jnishida@hawaii.edu></rtyama </nkchun@hawaii.edu></helminck@hawaii.edu></rwillett@hawaii.edu></cntang@hawaii.edu> | agu@hawaii.edu>; Di .edu>; Lisa Imai <lisa ?earl Iboshi <iboshi@ <megant@hawaii.edu< td=""><td>iane Nakashima <dianena@hawaii.edu>; Joy N aakam@hawaii.edu>; Stephanie Kailiawa hawaii.edu>; David Mongold <mongold@hawaii.edu>; u>; Patty Bedoya <pbedoya@hawaii.edu>; Kevin</pbedoya@hawaii.edu></mongold@hawaii.edu></dianena@hawaii.edu></td></megant@hawaii.edu<></iboshi@ </lisa | iane Nakashima <dianena@hawaii.edu>; Joy N aakam@hawaii.edu>; Stephanie Kailiawa hawaii.edu>; David Mongold <mongold@hawaii.edu>; u>; Patty Bedoya <pbedoya@hawaii.edu>; Kevin</pbedoya@hawaii.edu></mongold@hawaii.edu></dianena@hawaii.edu> |
| Aloha Rufus, | | |
| Attached for your appropriate attention are the copies of the a | approved program mo | odifications: |
| Undergraduate Program Modification, BS in Mathematics, Da | ta Science Track | |
| New Computational Science Track in the Mathematics BS | | |
| These are your official copies. | | |
| Should you have any questions, please contact April Quinn at | t agoodwin@hawaii.e | edu (copied for your convenience). |
| Thank you, | | |
| Cynthia | | |
| Cynthia N. Tang | | |
| | | |
| Administrative and Fiscal Support Specialist | | |
| Office of the Provost | | |

University of Hawai'i at Mānoa

| 2500 Campus Road, Hawai'i Hall 307 |
|---|
| Honolulu, HI 96822 |
| (808) 956-7486 / FAX (808) 956-5136 |
| |
| |
| |
| |
| |
| |
| |
| Pheng Xiong, M.Ed. |
| University Registrar, Office of the Registrar |
| |
| p: 808-956-8010 |
| |
| w: manoa.hawaii.edu/registrar |
| e: pxiong@hawaii.edu |
| |
| |
| |
| |
| |
| The different racial groups in the Territory are represented in the student body and one of the ideals held by those who guide the University is that these students, working and playing together on our campus, shall go out not to break down race differences but to disseminate understanding of these differences, toleration for them, and goodwill. A challenge to us all! - H. |
| MacNeil (University of Hawai'i Registrar - 1922 - 1956) |
| FERPA Notice: This email message (including any attachments) is for the sole use of the intended recipient(s) and may contain confidential information covered under the Family Educational Rights & Privacy Act (FERPA) and/or applicable state laws. If you received |
| this email (including attachments) in error, please delete this email and notify me immediately. |
| |
| |
| |
| - |
| |
| |
| |
| |
| Pheng Xiong, M.Ed. University Registrar, Office of the Registrar |
| |
| |
| p: 808-956-8010 |
| w: manoa.hawaii.edu/registrar |
| |
| e: pxiong@hawaii.edu |
| |
| |
| |
| |
| The different racial groups in the Territory are represented in the student body and one of the ideals held by those who guide the University is that these students, working and playing together |
| on our campus, shall go out not to break down race differences but to disseminate understanding of these differences, toleration for them, and goodwill. A challenge to us all! - H. MacNeil (University of Hawai'i Registrar - 1922 - 1956) |
| FERPA Notice: This email message (including any attachments) is for the sole use of the intended recipient(s) and may contain confidential |
| information covered under the Family Educational Rights & Privacy Act (FERPA) and/or applicable state laws. If you received this email (including attachments) in error, please delete this email and notify me immediately. |
| |



| | | Pheng Xiong, M.Ed. [] University Registrar, Office of the Registrar |
|---|--|--|
| | | p: 808-956-8010 |
| | | w: manoa.hawaii.edu/registrar |
| | | e: pxiong@hawaii.edu |
| | | |
| | | rritory are represented in the student body and one of the ideals held by those who guide the University is that these students, working and playing together on our campus, differences but to disseminate understanding of these differences, toleration for them, and goodwill. A challenge to us all! - H. MacNeil (University of Hawai'i Registrar - |
| | covered under the Family | il message (including any attachments) is for the sole use of the intended recipient(s) and may contain confidential information Educational Rights & Privacy Act (FERPA) and/or applicable state laws. If you received this email (including attachments) in nail and notify me immediately. |
| | Rufus Willett Professor and Chair, Mathemat University of Hawaiʻi at Māno. Pronouns: he / him | |
| - | UNIVERSITY <u>of HAWAI'I'</u> <u>MANOA</u> Pheng | g Xiong, M.Ed. Hear my name |
| | Univer | sity Registrar, Office of the Registrar |
| | | -956-8010 noa.hawaii.edu/registrar |
| | e: pxie | ong@hawaii.edu |
| | | presented in the student body and one of the ideals held by those who guide the University is that these students, working and playing together on our campus, shall go out not to understanding of these differences, toleration for them, and goodwill. A challenge to us all! - H. MacNeil (University of Hawai'i Registrar - 1922 - 1956) |
| | | any attachments) is for the sole use of the intended recipient(s) and may contain confidential information covered under the Family Educational Rights & Privacy Act (FERPA) is email (including attachments) in error, please delete this email and notify me immediately. |

Pheng Xiong pxiong@hawaii.edu> To: April Nozomi Quinn <agoodwin@hawaii.edu>

Cc: Rufus Willett <rufus@math.hawaii.edu>, Lynne Higa <lynnehig@hawaii.edu>, Alison R Sherwood <asherwoo@hawaii.edu>

Hi April,

I thought about the CIP code (the computational science CIP makes sense to me), but they're usually only attached to the major and not the concentration. Will IRAO be okay attaching a CIP to a concentration though?

On Wed, Feb 23, 2022 at 12:33 PM April Nozomi Quinn <agoodwin@hawaii.edu> wrote:

Apologies for coming late to this discussion. Just to confirm, I am comfortable with this approach, but want to confirm that the CIP code (used by NCES to track all academic programs) for Computational Science is aligned with 30.3001 below (and not 11.0701). Is this accurate? Thank you!

April

Aloha

Detail for CIP Code 30.3001

Title: Computational Science.

Definition: A program that focuses on the study of scientific computing and its application. Includes instruction in scientific visualization, multi-scale analysis, grid generation, data analysis, applied mathematics, numerical algorithms, high performance parallel computing, and numerical modeling and simulation with applications in science, engineering and other disciplines in which computation plays an integral role.

Detail for CIP Code 11.0701

Title: Computer Science.

Print

Print

Wed, Feb 23, 2022 at 12:40 PM

University of Hawaii Mail - Math Modifications

Definition: A program that focuses on computer theory, computing problems and solutions, and the design of computer systems and user interfaces from a scientific perspective. Includes instruction in the principles of computational science, computer development and programming, and applications to a variety of end-use situations.

April Nozomi Quinn, PhD Director of Program Development and Review Office of the Vice Provost for Academic Excellence University of Hawaii at Manoa 2500 Campus Road, Hawaii Hall, 209 Honolulu, HI 96822 Office: (808) 956-4568 / Fax: (808) 956-7115 http://www.manoa.hawaii.edu On Wed, Feb 23, 2022 at 11:39 AM Pheng Xiong pxiong@hawaii.edu> wrote: Thanks Rufus and Lynne April if this sounds good to you too, I will submit the PCR to IRAO with the explanation for the new concentration code. Max On Wed, Feb 23, 2022 at 11:36 AM Rufus Willett <rufus@math.hawaii.edu> wrote: Hello all Thank you: this looks good to me. Cheers. Rufus On 2/23/22 11:35 AM, Lynne Higa wrote: Hi Max. That sounds okay to me, but I'll let Rufus give the final okay. Lynne From: Pheng Xiong <pxiong@hawaii.edu> Sent: Wednesday, February 23, 2022 11:19 AM To: Lynne Higa <lynnehig@hawaii.edu> Cc: Alison R Sherwood <asherwoo@hawaii.edu>; April Quinn <agoodwin@hawaii.edu>; Rufus Willett MATH <rufus@math.hawaii.edu> Subject: Re: FW: Math Modifications Hi Lynne (and Rufus) I had drafted this text on the PCR to simply it for IRAO: A new concentration code of CLSC is requested to distinguish from Computer Science (CSCI). Please note that Computational Science differs from Computer Science in that computer science is about the use of computers, their hardware, and software. Computational Science is related to science research using computation to solve problems. If this works, I will include it in the request to IRAO. On Wed, Feb 23, 2022 at 10:35 AM Lynne Higa <lynnehig@hawaii.edu> wrote: Hi Max, Rufus – please correct me if I am not explaining this well (or incorrectly). Computational science can be considered an interdisciplinary in nature in that it does involve knowledge of both mathematics and computer science. This computational science track heavily focuses on mathematical modeling/techniques and is reflected in the requirements for this track. The vast majority of the courses required for this track are MATH courses and not ICS courses. It is considered an applied math degree. Lynne From: Pheng Xiong <pxiong@hawaii.edu> Sent: Wednesday, February 23, 2022 10:14 AM To: Alison R Sherwood <asherwoo@hawaii.edu> Cc: Lynne Higa <lynnehig@hawaii.edu>; April Quinn <agoodwin@hawaii.edu>; Rufus Willett_MATH <rufus@math.hawaii.edu> Subject: Re: FW: Math Modifications

| Forgot to add - just in case IRAO were to ask (they most likely will) - how does computational science differ from computer science? I'd like to make sure that this request goes smoothly and without question from IRAO. |
|---|
| Max |
| On Wed, Feb 23, 2022 at 10:11 AM Pheng Xiong <pre>pxiong@hawaii.edu> wrote: Hi Alison,</pre> |
| Actually COMP code is already taken - and so are others that I was thinking of. Can I suggest CLSC instead? |
| Max |
| On Wed, Feb 23, 2022 at 9:36 AM Alison R Sherwood <asherwoo@hawaii.edu> wrote: What about MATH-BS-COMP?</asherwoo@hawaii.edu> |
| Alison |
| |
| Interim Associate Dean, College of Natural Sciences Professor, School of Life Sciences |
| University of Hawai'i at Mānoa http://sherwoodalgalbiodiversitylab.weebly.com/ |
| |
| On Wed, Feb 23, 2022 at 8:18 AM Lynne Higa <lynnehig@hawaii.edu> wrote: Hi Max,</lynnehig@hawaii.edu> |
| We want to indicate the track is Computational Science. Sounds like the 4 letter code of CSCI won't work – I was hoping that the combination of the 3 codes (MATH-BS-CSCI) versus CSCI-BS) would allow it to be distinguished from the Computer Science degree, which is different from this new track in the BS Math degree. |
| Anyone have suggestions? |
| Lynne |
| From: Pheng Xiong <pxiong@hawaii.edu> Sent: Wednesday, February 23, 2022 7:58 AM To: Lynne Higa <lynnehig@hawaii.edu> Cc: Alison R Sherwood <asherwoo@hawaii.edu>; April Nozomi Quinn <agoodwin@hawaii.edu>; Rufus Willett_MATH <rufus@math.hawaii.edu> Subject: Re: FW: Math Modifications</rufus@math.hawaii.edu></agoodwin@hawaii.edu></asherwoo@hawaii.edu></lynnehig@hawaii.edu></pxiong@hawaii.edu> |
| Quick question - I noticed that the track name is 'computational science'. Since the CSCI code exists as 'computer science' are we fine that this will be the name displayed on the student's academic record and STAR? |
| Max |
| On Wed, Feb 23, 2022 at 7:52 AM Pheng Xiong <pre>pxiong@hawaii.edu> wrote:</pre> |
| Yes - we will need to create a new concentration code for the new track. The memo should be fine. Thanks for the code suggestion Lynne - I'll use this one in the PCR to IRAO. |
| On Tue, Feb 22, 2022 at 5:39 PM Lynne Higa <lynnehig@hawaii.edu> wrote:</lynnehig@hawaii.edu> |

| Hi Max, |
|---|
| Please let me know if there is anything I can do to assist with obtaining the concentration code for the new Computational Science track. I was thinking that MATH-BS-CSCI would be in keeping with the Data Science Track, unless it is problematic to use CSCI (which is also known as the Computer Science major). |
| Lynne |
| From: April Nozomi Quinn <agoodwin@hawaii.edu> Sent: Monday, February 14, 2022 2:56 PM To: Lynne Higa <lynnehig@hawaii.edu> Cc: Max Xiong <pxiong@hawaii.edu>; A. Sherwood_CNS <asherwoo@hawaii.edu> Subject: Re: FW: Math Modifications</asherwoo@hawaii.edu></pxiong@hawaii.edu></lynnehig@hawaii.edu></agoodwin@hawaii.edu> |
| Hi Lynne, |
| Great question! |
| Max- do you need additional documentation or can you request the codes with this memo as back-up? |
| Thanks! |
| April |
| April Nozomi Quinn, PhD |
| Director of Program Development and Review |
| Office of the Vice Provost for Academic Excellence |
| University of Hawaii at Manoa |
| 2500 Campus Road, Hawaii Hall, 209 |
| Honolulu, HI 96822 |
| Office: (808) 956-4568 / Fax: (808) 956-7115 |
| http://www.manoa.hawaii.edu |
| |
| On Thu, Feb 10, 2022 at 12:47 PM Lynne Higa <lynnehig@hawaii.edu> wrote: Aloha Max and April,</lynnehig@hawaii.edu> |
| What do we need to do to establish a concentration code for this newly approved track within the BS Math degree? |
| |
| The current codes are: |
| Mathematics - BS (General) MATH-BS |
| Mathematics - BS (Data Science) MATH -BS-DSCI |
| |
| |
| Lynne |
| From: Cynthia Tang <cntang@hawaii.edu> Sent: Thursday, February 3, 2022 2:04 PM To: Rufus Willett <nvillett< td=""> To: Rufus Willett <nvillett< td=""> Millett Cc: Aloysius Helminck <helminck@hawaii.edu>; Alison R Sherwood <asherwoo@hawaii.edu>; Lynne Higa <lynnehig@hawaii.edu>; Nikki Chun <nkchun@hawaii.edu>; Ryan Yamaguchi <rtyamagu@hawaii.edu>; Diane Nakashima <dianena@hawaii.edu>; Joy N Nishida <nishida@hawaii.edu>; Max Xiong <pxiong@hawaii.edu>; Lisa Imai <lisaakam@hawaii.edu>; Stephanie Kailiawa <stephk@hawaii.edu>; Grant Kim <grantkim@hawaii.edu>; Pearl Iboshi <iboshi@hawaii.edu>; David Mongold <mongold@hawaii.edu>; Fiorella Penaloza <fpenaloza@hawaii.edu>; Megan Terawaki <megant@hawaii.edu>; Melanie Nishimura <mnishimu@hawaii.edu>; April Quinn <agoodwin@hawaii.edu> <agoodwin@hawaii.edu> Subject: Math Modifications</agoodwin@hawaii.edu></agoodwin@hawaii.edu></mnishimu@hawaii.edu></megant@hawaii.edu></fpenaloza@hawaii.edu></mongold@hawaii.edu></iboshi@hawaii.edu></grantkim@hawaii.edu></stephk@hawaii.edu></lisaakam@hawaii.edu></pxiong@hawaii.edu></nishida@hawaii.edu></dianena@hawaii.edu></rtyamagu@hawaii.edu></nkchun@hawaii.edu></lynnehig@hawaii.edu></asherwoo@hawaii.edu></helminck@hawaii.edu></nvillett<></nvillett<></cntang@hawaii.edu> |
| Aloha Rufus, |

| | | Attached for your appr | ropriate attention are the copies of the approved program modifications: |
|--|------|---|---|
| | | | am Modification, BS in Mathematics, Data Science Track cience Track in the Mathematics BS |
| | | These are your official | copies. |
| | | Should you have any o | questions, please contact April Quinn at agoodwin@hawaii.edu (copied for your convenience). |
| | | Thank you, | |
| | | Cynthia | |
| | | Cynthia N. Tang | |
| | | Administrative and Fig | scal Support Specialist |
| | | University of Hawai'i a | |
| | | 2500 Campus Road, H Honolulu, HI 96822 | Hawai'i Hall 307 |
| | | (808) 956-7486 / FAX | (808) 956-5136 |
| | | | |
| | | | Pheng Xiong, M.Ed. |
| | |] | |
| | | | p: 808-956-8010 |
| | | | w: manoa.hawaii.edu/registrar |
| | | | e: pxiong@hawaii.edu |
| | | | |
| | The | different racial groups in the Ter | ritory are represented in the student body and one of the ideals held by those who guide the University is that these students, working and playing |
| | toge | | t not to break down race differences but to disseminate understanding of these differences, toleration for them, and goodwill. A challenge to us all! - H. |
| | cor | fidential information cov | message (including any attachments) is for the sole use of the intended recipient(s) and may contain /ered under the Family Educational Rights & Privacy Act (FERPA) and/or applicable state laws. If you received ments) in error, please delete this email and notify me immediately. |
| | | | |
| | | | |

I



| | Pheng Xiong, M.Ed University Registrar, Office of the Registrar p: 808-956-8010 w: manoa.hawaii.edu/registrar e: pxiong@hawaii.edu |
|--|--|
| campus, shall go o Registrar - 1922 - 19 FERPA Notice information co | groups in the Territory are represented in the student body and one of the ideals held by those who guide the University is that these students, working and playing together on our ut not to break down race differences but to disseminate understanding of these differences, toleration for them, and goodwill. A challenge to us all! - H. MacNeil (University of Hawai'i |
| | Pheng Xiong, M.Ed. University Registrar, Office of the Registrar |
| | p: 808-956-8010 w: manoa.hawaii.edu/registrar e: pxiong@hawaii.edu |
| shall go out not to brea 1922 - 1956) FERPA Notice: ⁻ covered under th | hups in the Territory are represented in the student body and one of the ideals held by those who guide the University is that these students, working and playing together on our campus, ak down race differences but to disseminate understanding of these differences, toleration for them, and goodwill. A challenge to us all! - H. MacNeil (University of Hawai'i Registrar - This email message (including any attachments) is for the sole use of the intended recipient(s) and may contain confidential information the Family Educational Rights & Privacy Act (FERPA) and/or applicable state laws. If you received this email (including attachments) in et this email and notify me immediately. |
| Rufus Willett Professor and Chair, J University of Hawai'i Pronouns: he / him | |
| UNIVERSITY of HAWAI'I' MANOA | Pheng Xiong, M.Ed. Hear my name University Registrar, Office of the Registrar p: 808-956-8010 w: manoa.hawaii.edu/registrar |

2/23/2

| | University of Hawaii Mail - Math Modifi | cations |
|------------------------------|--|---|
| | e: pxiong@hawaii.edu | |
| | in the Territory are represented in the student body and one of the ideals held by those who guide the University is that these st s but to disseminate understanding of these differences, toleration for them, and goodwill. A challenge to us all! - H. MacNeil (L | |
| | message (including any attachments) is for the sole use of the intended recipient(s) and may contain confidential information s. If you received this email (including attachments) in error, please delete this email and notify me immediately. | n covered under the Family Educational Rights & Privacy Act (FERPA) |
| | | |
| <u>of Hawai'i</u> * Mānoa | Pheng Xiong, M.Ed. 🚺 Hear my name | |
| | University Registrar, Office of the Registrar | |
| | p: 808-956-8010 | |
| | w: manoa.hawaii.edu/registrar e: pxiong@hawaii.edu | |
| | Territory are represented in the student body and one of the ideals held by those who guide the University is that these students eminate understanding of these differences, toleration for them, and goodwill. A challenge to us all! - H. MacNeil (University of | |
| | age (including any attachments) is for the sole use of the intended recipient(s) and may contain confidential information cover ived this email (including attachments) in error, please delete this email and notify me immediately. | ered under the Family Educational Rights & Privacy Act (FERPA) and/or |
| | waii.edu> joodwin@hawaii.edu>, Pheng Xiong <pxiong@hawaii.edu> nath.hawaii.edu>, Alison R Sherwood <asherwoo@hawaii.edu></asherwoo@hawaii.edu></pxiong@hawaii.edu> | Wed, Feb 23, 2022 at 2:03 PM |
| | | |
| Hi April, | | |

Lynne

From: April Nozomi Quinn <agoodwin@hawaii.edu> Sent: Wednesday, February 23, 2022 12:33 PM To: Pheng Xiong <pxiong@hawaii.edu> Cc: Rufus Willett <rufus@math.hawaii.edu>; Lynne Higa <lynnehig@hawaii.edu>; Alison R Sherwood <asherwoo@hawaii.edu> Subject: Re: FW: Math Modifications

Aloha.

Apologies for coming late to this discussion. Just to confirm, I am comfortable with this approach, but want to confirm that the CIP code (used by NCES to track all academic programs) for Computational Science is aligned with 30.3001 below (and not 11.0701). Is this accurate?

Thank you!

April

Detail for CIP Code 30.3001

Title: Computational Science.

Definition: A program that focuses on the study of scientific computing and its application. Includes instruction in scientific visualization, multi-scale analysis, grid generation, data analysis, applied mathematics, numerical algorithms, high performance parallel computing, and numerical modeling and simulation with applications in science, engineering and other disciplines in which computation plays an integral role.

Detail for CIP Code 11.0701

Title: Computer Science.

Definition: A program that focuses on computer theory, computing problems and solutions, and the design of computer systems and user interfaces from a scientific perspective. Includes instruction in the principles of computational science, computer development and programming, and applications to a variety of end-use situations.

April Nozomi Quinn, PhD

Print

.

Print

.

Director of Program Development and Review

Office of the Vice Provost for Academic Excellence

University of Hawaii at Manoa

2500 Campus Road, Hawaii Hall, 209

Honolulu, HI 96822

Office: (808) 956-4568 / Fax: (808) 956-7115

http://www.manoa.hawaii.edu

d Eab

| Thanks Rufus and Lynne. |
|---|
| April if this sounds good to you too, I will submit the PCR to IRAO with the explanation for the new concentration code. |
| Max |
| On Wed, Feb 23, 2022 at 11:36 AM Rufus Willett <rufus@math.hawaii.edu> wrote:</rufus@math.hawaii.edu> |
| Hello all, |
| Thank you: this looks good to me. |
| Cheers, |
| Rufus |
| On 2/23/22 11:35 AM, Lynne Higa wrote: |
| Hi Max, |
| That sounds okay to me, but I'll let Rufus give the final okay. |
| Lynne |
| From: Pheng Xiong <pxiong@hawaii.edu> Sent: Wednesday, February 23, 2022 11:19 AM To: Lynne Higa <lynnehig@hawaii.edu> Cc: Alison R Sherwood <asherwoo@hawaii.edu>; April Quinn <agoodwin@hawaii.edu>; Rufus Willett_MATH <rufus@math.hawaii.edu> Subject: Re: FW: Math Modifications</rufus@math.hawaii.edu></agoodwin@hawaii.edu></asherwoo@hawaii.edu></lynnehig@hawaii.edu></pxiong@hawaii.edu> |
| Hi Lynne (and Rufus) |
| I had drafted this text on the PCR to simply it for IRAO: |
| A new concentration code of CLSC is requested to distinguish from Computer Science (CSCI). Please note that Computational Science differs from Computer Science in that computer science is about the use of computers, their hardware, and software. Computational Science is related to science research using computation to solve problems. |
| If this works, I will include it in the request to IRAO. |
| On Wed, Feb 23, 2022 at 10:35 AM Lynne Higa <lynnehig@hawaii.edu> wrote:</lynnehig@hawaii.edu> |
| Hi Max, |
| Rufus – please correct me if I am not explaining this well (or incorrectly). Computational science can be considered an interdisciplinary in nature in that it does involve knowledge of both mathematics and computer science. This computational science track heavily focuses on mathematical modeling/techniques and is reflected in the requirements for this track. The vast majority of the courses required for this track are MATH courses and not ICS courses. It is considered an applied math degree. |

Lynne

| c: L ubje | ynne Higa <lynnehig@hawaii.edu>; April Quinn <agoodwin@hawaii.edu>; Rufus Willett_MATH <rufus@math.hawaii.edu> ect: Re: FW: Math Modifications</rufus@math.hawaii.edu></agoodwin@hawaii.edu></lynnehig@hawaii.edu> |
|--------------|---|
| | t to add - just in case IRAO were to ask (they most likely will) - how does computational science differ from computer science? I'd like to make s is request goes smoothly and without question from IRAO. |
| ах | |
| n W | ed, Feb 23, 2022 at 10:11 AM Pheng Xiong <pxiong@hawaii.edu> wrote:</pxiong@hawaii.edu> |
| | Alison, |
| | |
| Act | tually COMP code is already taken - and so are others that I was thinking of. Can I suggest CLSC instead? |
| Ма | x |
| | |
| On | Wed, Feb 23, 2022 at 9:36 AM Alison R Sherwood <asherwoo@hawaii.edu> wrote:</asherwoo@hawaii.edu> |
| | What about MATH-BS-COMP? |
| | Alison |
| 1 | |
| | _ |
| | Interim Associate Dean, College of Natural Sciences |
| | Professor, School of Life Sciences |
| | University of Hawai'i at Mānoa |
| | http://sherwoodalgalbiodiversitylab.weebly.com/ |
| | |
| | |
| | On Wed, Feb 23, 2022 at 8:18 AM Lynne Higa <lynnehig@hawaii.edu> wrote:</lynnehig@hawaii.edu> |
| | Hi Max, |
| | We want to indicate the track is Computational Science. Sounds like the 4 letter code of CSCI won't work – I was hoping that the combination of the 3 codes (MATH-BS-CSCI) versus CSCI-BS) would allow it to be distinguished from the Computer Science degree, which is different from this new track in the BS Math degree. |
| | Anyone have suggestions? |
| | Lynne |
| | From: Pheng Xiong <pxiong@hawaii.edu> Sent: Wednesday, February 23, 2022 7:58 AM To: Lynne Higa <lynnehig@hawaii.edu> Cc: Alison R Sherwood <asherwoo@hawaii.edu>; April Nozomi Quinn <agoodwin@hawaii.edu>; Rufus Willett_MATH <rufus@math.hawaii.edu> Subject: Re: FW: Math Modifications</rufus@math.hawaii.edu></agoodwin@hawaii.edu></asherwoo@hawaii.edu></lynnehig@hawaii.edu></pxiong@hawaii.edu> |
| | Quick question - I noticed that the track name is 'computational science'. Since the CSCI code exists as 'computer science' are we fine that the will be the name displayed on the student's academic record and STAR? |
| | Max |
| | On Wed, Feb 23, 2022 at 7:52 AM Pheng Xiong <pxiong@hawaii.edu> wrote:</pxiong@hawaii.edu> |
| | |

| Yes - we will need to create a new concentration code for the new track. The memo should be fine. Thanks for the code suggestion Lynne - I use this one in the PCR to IRAO. |
|---|
| On Tue, Feb 22, 2022 at 5:39 PM Lynne Higa <lynnehig@hawaii.edu> wrote:</lynnehig@hawaii.edu> |
| Hi Max, |
| Please let me know if there is anything I can do to assist with obtaining the concentration code for the new Computational Science track. was thinking that MATH-BS-CSCI would be in keeping with the Data Science Track, unless it is problematic to use CSCI (which is also known as the Computer Science major). |
| Lynne |
| From: April Nozomi Quinn <agoodwin@hawaii.edu> Sent: Monday, February 14, 2022 2:56 PM To: Lynne Higa <lynnehig@hawaii.edu> Cc: Max Xiong <pxiong@hawaii.edu>; A. Sherwood_CNS <asherwoo@hawaii.edu> Subject: Re: FW: Math Modifications</asherwoo@hawaii.edu></pxiong@hawaii.edu></lynnehig@hawaii.edu></agoodwin@hawaii.edu> |
| Hi Lynne, |
| Great question! |
| Max- do you need additional documentation or can you request the codes with this memo as back-up? |
| Thanks! |
| April |
| April Nozomi Quinn, PhD |
| Director of Program Development and Review |
| Office of the Vice Provost for Academic Excellence |
| University of Hawaii at Manoa |
| 2500 Campus Road, Hawaii Hall, 209 |
| Honolulu, HI 96822 |
| Office: (808) 956-4568 / Fax: (808) 956-7115 |
| http://www.manoa.hawaii.edu |
| On Thu, Feb 10, 2022 at 12:47 PM Lynne Higa <lynnehig@hawaii.edu> wrote: Aloha Max and April,</lynnehig@hawaii.edu> |
| What do we need to do to establish a concentration code for this newly approved track within the BS Math degree? |
| The current codes are: |
| Mathematics - BS (General) MATH-BS |
| Mathematics - BS (Data Science) MATH -BS-DSCI |
| |
| Lynne |
| From: Cynthia Tang <cntang@hawaii.edu> Sent: Thursday, February 3, 2022 2:04 PM To: Rufus Willett <rwillett@hawaii.edu> Cc: Aloysius Helminck@hawaii.edu>; Alison R Sherwood <asherwoo@hawaii.edu>; Lynne Higa <lynnehig@hawaii.edu>; Nikki Chun <nkchun@hawaii.edu>; Ryan Yamaguchi <rtyamagu@hawaii.edu>; Diane Nakashima <dianena@hawaii.edu>; Joy N Nishida <jnishida@hawaii.edu>; Max Xiong <pxiong@hawaii.edu>; Lisa Imai <lisaakam@hawaii.edu>; Stephanie Kailiawa <stephk@hawaii.edu>; Grant Kim <grantkim@hawaii.edu>; Pearl Iboshi <iboshi@hawaii.edu>; David Mongold <mongold@hawaii.edu< td=""></mongold@hawaii.edu<></iboshi@hawaii.edu></grantkim@hawaii.edu></stephk@hawaii.edu></lisaakam@hawaii.edu></pxiong@hawaii.edu></jnishida@hawaii.edu></dianena@hawaii.edu></rtyamagu@hawaii.edu></nkchun@hawaii.edu></lynnehig@hawaii.edu></asherwoo@hawaii.edu></rwillett@hawaii.edu></cntang@hawaii.edu> |

| Fiorella Penaloza <fpenaloz@hawaii.edu>; Megan Terawaki <megant@hawaii.edu>; Patty Bedoya <pbedoya@hawaii.edu>; Kevin Kaneshiro <kevinfk@hawaii.edu>; Alison Kanekuni <kanekuni@hawaii.edu>; Melanie Nishimura <mnishimu@hawaii.edu>; April Quinn <agoodwin@hawaii.edu> Subject: Math Modifications</agoodwin@hawaii.edu></mnishimu@hawaii.edu></kanekuni@hawaii.edu></kevinfk@hawaii.edu></pbedoya@hawaii.edu></megant@hawaii.edu></fpenaloz@hawaii.edu> |
|---|
| Aloha Rufus, |
| Attached for your appropriate attention are the copies of the approved program modifications: |
| Undergraduate Program Modification, BS in Mathematics, Data Science Track New Computational Science Track in the Mathematics BS |
| These are your official copies. |
| Should you have any questions, please contact April Quinn at agoodwin@hawaii.edu (copied for your convenience). |
| |
| Thank you, |
| Cynthia |
| Cynthia N. Tang |
| Administrative and Fiscal Support Specialist Office of the Provost |
| |
| University of Hawai'i at Mānoa 2500 Campus Road, Hawai'i Hall 307 |
| |
| Honolulu, HI 96822 (808) 956-7486 / FAX (808) 956-5136 |
| |
| |
| |
| |
| Pheng Xiong, M.Ed. University Registrar, Office of the Registrar |
| p: 808-956-8010 |
| w: manoa.hawaii.edu/registrar |
| e: pxiong@hawaii.edu |
| |
| The different racial groups in the Territory are represented in the student body and one of the ideals held by those who guide the University is that these students, working and playing together on our campus, shall go out not to break down race differences but to disseminate understanding of these differences, toleration for them, and goodwill. A challenge to us all! - H. MacNeil (University of Hawai'i Registrar - 1922 - 1956) |
| FERPA Notice: This email message (including any attachments) is for the sole use of the intended recipient(s) and may contain confidential information covered under the Family Educational Rights & Privacy Act (FERPA) and/or applicable state laws. If you received this email (including attachments) in error, please delete this email and notify me immediately. |
| |

| | | Pheng Xiong, M.Ed. University Registrar, Office of the Registrar p: 808-956-8010 w: manoa.hawaii.edu/registrar e: pxiong@hawaii.edu |
|----------------------|---|--|
| | shall go out not to break down i 1922 - 1956) FERPA Notice: This information covered u | he Territory are represented in the student body and one of the ideals held by those who guide the University is that these students, working and playing together on our campus, race differences but to disseminate understanding of these differences, toleration for them, and goodwill. A challenge to us all! - H. MacNeil (University of Hawai'i Registrar - email message (including any attachments) is for the sole use of the intended recipient(s) and may contain confidential under the Family Educational Rights & Privacy Act (FERPA) and/or applicable state laws. If you received this email ts) in error, please delete this email and notify me immediately. |
| |] | Pheng Xiong, M.Ed. [] University Registrar, Office of the Registrar p: 808-956-8010 w: manoa.hawaii.edu/registrar e: pxiong@hawaii.edu |
| go ou FEI info | ut not to break down race difference RPA Notice: This email prmation covered under | ory are represented in the student body and one of the ideals held by those who guide the University is that these students, working and playing together on our campus, shall res but to disseminate understanding of these differences, toleration for them, and goodwill. A challenge to us all? - H. MacNeil (University of Hawai'i Registrar - 1922 - 1956) message (including any attachments) is for the sole use of the intended recipient(s) and may contain confidential the Family Educational Rights & Privacy Act (FERPA) and/or applicable state laws. If you received this email (including se delete this email and notify me immediately. |
| | F | Pheng Xiong, M.Ed. |

| | University Registrar, Office of the Registrar |
|---|--|
| | p: 808-956-8010 |
| | w: manoa.hawaii.edu/registrar |
| | e: pxiong@hawaii.edu |
| | |
| | |
| The different racial | groups in the Territory are represented in the student body and one of the ideals held by those who guide the University is that these students, working and playing together on our campus, shall go |
| | vn race differences but to disseminate understanding of these differences, toleration for them, and goodwill. A challenge to us all! - H. MacNeil (University of Hawai'i Registrar - 1922 - 1956) |
| information c | overed under the Family Educational Rights & Privacy Act (FERPA) and/or applicable state laws. If you received this email (including in error, please delete this email and notify me immediately. |
| | |
| | |
| | |
| | |
| | |
| | Pheng Xiong, M.Ed University Registrar, Office of the Registrar |
| | p: 808-956-8010 |
| | |
| | w: manoa.hawaii.edu/registrar e: pxiong@hawaii.edu |
| | |
| | |
| The different reciel are | up in the Territory we represented in the student body and one of the ideals held by these who wide the University is that these students working and repring together on our semance shall on out |
| not to break down race | ups in the Territory are represented in the student body and one of the ideals held by those who guide the University is that these students, working and playing together on our campus, shall go out differences but to disseminate understanding of these differences, toleration for them, and goodwill. A challenge to us all! - H. MacNeil (University of Hawai'i Registrar - 1922 - 1956) |
| covered under t | This email message (including any attachments) is for the sole use of the intended recipient(s) and may contain confidential information he Family Educational Rights & Privacy Act (FERPA) and/or applicable state laws. If you received this email (including attachments) in ete this email and notify me immediately. |
| | |
| Rufus Willett | |
| Professor and Chair, University of Hawai | |
| Pronouns: he / him | L at Manoa |
| | |
| | |
| UNIVERSITY of HAWAI'I' MANOA | Pheng Xiong, M.Ed. Hear my name University Registrar, Office of the Registrar |
| | p: 808-956-8010 |
| | w: manoa.hawaii.edu/registrar |
| | |

 $https://mail.google.com/mail/u/0/?ik = 4c5a4b4032 \& view = pt \& search = all \& permthid = thread - f\% 3A1723788747772314499 \& dsqt = 1 \& simpl = msg - f\% 3A17 \dots 66/74$

e: pxiong@hawaii.edu

The different racial groups in the Territory are represented in the student body and one of the ideals held by those who guide the University is that these students, working and playing together on our campus, shall go out not to break down race differences but to disseminate understanding of these differences, toleration for them, and goodwill. A challenge to us all! - H. MacNeil (University of Hawai'i Registrar - 1922 - 1956)

FERPA Notice: This email message (including any attachments) is for the sole use of the intended recipient(s) and may contain confidential information covered under the Family Educational Rights & Privacy Act (FERPA) and/or applicable state laws. If you received this email (including attachments) in error, please delete this email and notify me immediately.

April Nozomi Quinn <agoodwin@hawaii.edu> To: Lynne Higa <lynnehig@hawaii.edu>

Cc: Pheng Xiong <pxiong@hawaii.edu>, Rufus Willett <rufus@math.hawaii.edu>, Alison R Sherwood <asherwoo@hawaii.edu>

Wed, Feb 23, 2022 at 3:30 PM

Thank you, Lynne!

Max- this all sounds good to me. Thank you, everyone! April

April Nozomi Quinn, PhD Director of Program Development and Review Office of the Vice Provost for Academic Excellence University of Hawaii at Manoa 2500 Campus Road, Hawaii Hall, 209 Honolulu, HI 96822 Office: (808) 956-4568 / Fax: (808) 956-7115 http://www.manoa.hawaii.edu

On Wed, Feb 23, 2022 at 2:03 PM Lynne Higa <lynnehig@hawaii.edu> wrote:

Hi April,

You are correct - the track is aligned with 30.3001, and not 11.0701.

Lynne

From: April Nozomi Quinn <agoodwin@hawaii.edu> Sent: Wednesday, February 23, 2022 12:33 PM To: Pheng Xiong <pxiong@hawaii.edu> Co: Dufo Willet https://www.seluc.com Co: Dufo Willet https://www.seluc.com

Cc: Rufus Willett <rufus@math.hawaii.edu>; Lynne Higa <lynnehig@hawaii.edu>; Alison R Sherwood <asherwoo@hawaii.edu>

Subject: Re: FW: Math Modifications

Aloha,

Apologies for coming late to this discussion. Just to confirm, I am comfortable with this approach, but want to confirm that the CIP code (used by NCES to track all academic programs) for Computational Science is aligned with 30.3001 below (and not 11.0701). Is this accurate?

Thank you!

April

Detail for CIP Code 30.3001

Title: Computational Science.

Definition: A program that focuses on the study of scientific computing and its application. Includes instruction in scientific visualization, multi-scale analysis, grid generation, data analysis, applied mathematics, numerical algorithms, high performance parallel computing, and numerical modeling and simulation with applications in science, engineering and other disciplines in which computation plays an integral role.

Detail for CIP Code 11.0701

Title: Computer Science.

Definition: A program that focuses on computer theory, computing problems and solutions, and the design of computer systems and user interfaces from a scientific perspective. Includes instruction in the principles of computational science, computer development and programming, and applications to a variety of end-use situations.

April Nozomi Quinn, PhD

https://mail.google.com/mail/u/0/?ik=4c5a4b4032&view=pt&search=all&permthid=thread-f%3A1723788747772314499&dsqt=1&simpl=msg-f%3A17... 67/74

Print

Print

| Director of Program Development and Review | | |
|--|--|--|
| Office of the Vice Provost for Academic Excellence | | |
| University of Hawaii at Manoa | | |
| 2500 Campus Road, Hawaii Hall, 209 | | |
| Honolulu, HI 96822 | | |
| Office: (808) 956-4568 / Fax: (808) 956-7115 | | |
| http://www.manoa.hawaii.edu | | |
| | | |
| | | |
| On Wed, Feb 23, 2022 at 11:39 AM Pheng Xiong <pxiong@hawaii.edu> wrote:</pxiong@hawaii.edu> | | |
| Thanks Rufus and Lynne. | | |
| | | |
| April if this sounds good to you too, I will submit the PCR to IRAO with the explanation for the new concentration code. | | |
| | | |
| Max | | |
| | | |
| On Wed, Feb 23, 2022 at 11:36 AM Rufus Willett <rufus@math.hawaii.edu> wrote:</rufus@math.hawaii.edu> | | |
| Hello all, | | |
| Thank you: this looks good to me. | | |
| Cheers, | | |
| Rufus | | |
| On 2/23/22 11:35 AM, Lynne Higa wrote: | | |
| Hi Max, | | |
| | | |
| That sounds okay to me, but I'll let Rufus give the final okay. | | |
| Lynne | | |
| From: Pheng Xiong <pxiong@hawaii.edu> Sent: Wednesday, February 23, 2022 11:19 AM To: Lynne Higa <lynnehig@hawaii.edu> Cc: Alison R Sherwood <asherwoo@hawaii.edu>; April Quinn <agoodwin@hawaii.edu>; Rufus Willett_MATH <rufus@math.hawaii.edu> Subject: Re: FW: Math Modifications</rufus@math.hawaii.edu></agoodwin@hawaii.edu></asherwoo@hawaii.edu></lynnehig@hawaii.edu></pxiong@hawaii.edu> | | |
| Hi Lynne (and Rufus) | | |
| I had drafted this text on the PCR to simply it for IRAO: | | |
| A new concentration code of CLSC is requested to distinguish from Computer Science (CSCI). Please note that Computational Science differs from Computer Science in that computer science is about the use of computers, their hardware, and software. Computational Science is related to science research using computation to solve problems. | | |
| If this works, I will include it in the request to IRAO. | | |
| On Wed, Feb 23, 2022 at 10:35 AM Lynne Higa <lynnehig@hawaii.edu> wrote:</lynnehig@hawaii.edu> | | |
| Hi Max, | | |
| Rufus – please correct me if I am not explaining this well (or incorrectly). Computational science can be considered an interdisciplinary in nature that it does involve knowledge of both mathematics and computer science. This computational science track heavily focuses on mathematical modeling/techniques and is reflected in the requirements for this track. The vast majority of the courses required for this track are MATH courses not ICS courses. It is considered an applied math degree. | | |

| Cc: l | :: Wednesday, February 23, 2022 10:14 AM Alison R Sherwood <asherwoo@hawaii.edu> _ynne Higa <lynnehig@hawaii.edu>; April Quinn <agoodwin@hawaii.edu>; Rufus Willett_MATH <rufus@math.hawaii.edu> ect: Re: FW: Math Modifications</rufus@math.hawaii.edu></agoodwin@hawaii.edu></lynnehig@hawaii.edu></asherwoo@hawaii.edu> |
|-------|---|
| | ot to add - just in case IRAO were to ask (they most likely will) - how does computational science differ from computer science? I'd like to ma that this request goes smoothly and without question from IRAO. |
| Max | |
| On V | Ved, Feb 23, 2022 at 10:11 AM Pheng Xiong <pxiong@hawaii.edu> wrote:</pxiong@hawaii.edu> |
| Hi | Alison, |
| A | ctually COMP code is already taken - and so are others that I was thinking of. Can I suggest CLSC instead? |
| M | ax |
| 0 | n Wed, Feb 23, 2022 at 9:36 AM Alison R Sherwood <asherwoo@hawaii.edu> wrote:</asherwoo@hawaii.edu> |
| | What about MATH-BS-COMP? |
| | Alison |
| | |
| | - |
| | Interim Associate Dean, College of Natural Sciences |
| | Professor, School of Life Sciences |
| | University of Hawai'i at Mānoa |
| | http://sherwoodalgalbiodiversitylab.weebly.com/ |
| | |
| | On Wed, Feb 23, 2022 at 8:18 AM Lynne Higa <lynnehig@hawaii.edu> wrote:</lynnehig@hawaii.edu> |
| | Hi Max, |
| | We want to indicate the track is Computational Science. Sounds like the 4 letter code of CSCI won't work – I was hoping that the combi of the 3 codes (MATH-BS-CSCI) versus CSCI-BS) would allow it to be distinguished from the Computer Science degree, which is differe from this new track in the BS Math degree. |
| | Anyone have suggestions? |
| | Lynne |
| | From: Pheng Xiong <pxiong@hawaii.edu> Sent: Wednesday, February 23, 2022 7:58 AM To: Lynne Higa <lynnehig@hawaii.edu> Cc: Alison R Sherwood <asherwoo@hawaii.edu>; April Nozomi Quinn <agoodwin@hawaii.edu>; Rufus Willett_MATH <rufus@math.hawaii.edu> Subject: Re: FW: Math Modifications</rufus@math.hawaii.edu></agoodwin@hawaii.edu></asherwoo@hawaii.edu></lynnehig@hawaii.edu></pxiong@hawaii.edu> |
| | Quick question - I noticed that the track name is 'computational science'. Since the CSCI code exists as 'computer science' are we fine the this will be the name displayed on the student's academic record and STAR? |
| | Max |
| | On Wed, Feb 23, 2022 at 7:52 AM Pheng Xiong <pxiong@hawaii.edu> wrote:</pxiong@hawaii.edu> |
| | , ,, , , , , , , , , , , , , , , , , , |

| Yes - we will need to create a new concentration code for the new track. The memo should be fine. Thanks for the code suggestion Lynne - I'll use this one in the PCR to IRAO. |
|--|
| On Tue, Feb 22, 2022 at 5:39 PM Lynne Higa <lynnehig@hawaii.edu> wrote:</lynnehig@hawaii.edu> |
| Hi Max, |
| Please let me know if there is anything I can do to assist with obtaining the concentration code for the new Computational Science track. I was thinking that MATH-BS-CSCI would be in keeping with the Data Science Track, unless it is problematic to use CSCI (which is also known as the Computer Science major). |
| Lynne |
| From: April Nozomi Quinn <agoodwin@hawaii.edu> Sent: Monday, February 14, 2022 2:56 PM To: Lynne Higa <lynnehig@hawaii.edu> Cc: Max Xiong <pxiong@hawaii.edu>; A. Sherwood_CNS <asherwoo@hawaii.edu> Subject: Re: FW: Math Modifications</asherwoo@hawaii.edu></pxiong@hawaii.edu></lynnehig@hawaii.edu></agoodwin@hawaii.edu> |
| Hi Lynne, |
| Great question! |
| Max- do you need additional documentation or can you request the codes with this memo as back-up? |
| Thanks! |
| April |
| April Nozomi Quinn, PhD |
| Director of Program Development and Review |
| Office of the Vice Provost for Academic Excellence |
| University of Hawaii at Manoa |
| 2500 Campus Road, Hawaii Hall, 209 |
| Honolulu, HI 96822 |
| Office: (808) 956-4568 / Fax: (808) 956-7115 |
| http://www.manoa.hawaii.edu |
| On Thu, Feb 10, 2022 at 12:47 PM Lynne Higa <lynnehig@hawaii.edu> wrote: Aloha Max and April, What do we need to do to establish a concentration code for this newly approved track within the BS Math degree? The current codes are:</lynnehig@hawaii.edu> |
| Mathematics - BS (General) MATH-BS |
| Mathematics - BS (Data Science) MATH -BS-DSCI |
| Lynne From: Cynthia Tang <cntang@hawaii.edu> Sent: Thursday, February 3, 2022 2:04 PM To: Rufus Willett <rwillett@hawaii.edu>; Alison R Sherwood <asherwoo@hawaii.edu>; Lynne Higa <lynnehig@hawaii.edu>; Nikki Chun <nkchun@hawaii.edu>; Ryan Yamaguchi <rtyamagu@hawaii.edu>; Diane Nakashima <dianena@hawaii.edu>; Joy N Nishida <jnishida@hawaii.edu>; Max Xiong <pxiong@hawaii.edu>; Lisa Imai <lisaakam@hawaii.edu>; StephAnie Kailiawa <stephk@hawaii.edu>; Grant Kim <grantkim@hawaii.edu>; Pearl Iboshi <iboshi@hawaii.edu>; David Mongold</iboshi@hawaii.edu></grantkim@hawaii.edu></stephk@hawaii.edu></lisaakam@hawaii.edu></pxiong@hawaii.edu></jnishida@hawaii.edu></dianena@hawaii.edu></rtyamagu@hawaii.edu></nkchun@hawaii.edu></lynnehig@hawaii.edu></asherwoo@hawaii.edu></rwillett@hawaii.edu></cntang@hawaii.edu> |
| |

| | <pre><mongold@hawaii.edu>; Fiorella Penaloza <fpenaloz@hawaii.edu>; Megan Terawaki <megant@hawaii.edu>; Patty Bedoya <pbedoya@hawaii.edu>; Kevin Kaneshiro <kevinfk@hawaii.edu>; Alison Kanekuni <kanekuni@hawaii.edu>; Melanie Nishimura <mnishimu@hawaii.edu>; April Quinn <agoodwin@hawaii.edu> Subject: Math Modifications</agoodwin@hawaii.edu></mnishimu@hawaii.edu></kanekuni@hawaii.edu></kevinfk@hawaii.edu></pbedoya@hawaii.edu></megant@hawaii.edu></fpenaloz@hawaii.edu></mongold@hawaii.edu></pre> |
|----------------------------|--|
| | Aloha Rufus, |
| | Attached for your appropriate attention are the copies of the approved program modifications: |
| | Undergraduate Program Modification, BS in Mathematics, Data Science Track New Computational Science Track in the Mathematics BS |
| | These are your official copies. |
| | Should you have any questions, please contact April Quinn at agoodwin@hawaii.edu (copied for your convenience). |
| | Thank you, |
| | Cynthia |
| | Cynthia N. Tang |
| | Administrative and Fiscal Support Specialist Office of the Provost University of Hawai'i at Mānoa 2500 Campus Road, Hawai'i Hall 307 Honolulu, HI 96822 (808) 956-7486 / FAX (808) 956-5136 Pheng Xiong, M.Ed |
| camp Hawa FEF con | e: pxiong@hawaii.edu lifferent racial groups in the Territory are represented in the student body and one of the ideals held by those who guide the University is that these students, working and playing together on our us, shall go out not to break down race differences but to disseminate understanding of these differences, toleration for them, and goodwill. A challenge to us all! - H. MacNeil (University of n!'i Registrar - 1922 - 1956) RPA Notice: This email message (including any attachments) is for the sole use of the intended recipient(s) and may contain fidential information covered under the Family Educational Rights & Privacy Act (FERPA) and/or applicable state laws. If you eived this email (including attachments) in error, please delete this email and notify me immediately. |

| | | | Pheng Xiong, M.Ed. University Registrar, Office of the Registrar p: 808-956-8010 w: manoa.hawaii.edu/registrar e: pxiong@hawaii.edu |
|--|-----------------------|--|---|
| | | campus, shall go oul not to brea Registrar - 1922 - 1956) FERPA Notice: This of confidential informatic | e Territory are represented in the student body and one of the ideals held by those who guide the University is that these students, working and playing together on our k down race differences but to disseminate understanding of these differences, toleration for them, and goodwill. A challenge to us all! - H. MacNeil (University of Hawai'i email message (including any attachments) is for the sole use of the intended recipient(s) and may contain on covered under the Family Educational Rights & Privacy Act (FERPA) and/or applicable state laws. If you received ttachments) in error, please delete this email and notify me immediately. |
| | | | Pheng Xiong, M.Ed. [] University Registrar, Office of the Registrar p: 808-956-8010 w: manoa.hawaii.edu/registrar e: pxiong@hawaii.edu |
| | shali - 195 FEI | l go out not to break down race diff 56) RPA Notice: This email prmation covered under | ory are represented in the student body and one of the ideals held by those who guide the University is that these students, working and playing together on our campus, erences but to disseminate understanding of these differences, toleration for them, and goodwill. A challenge to us all! - H. MacNeil (University of Hawai'i Registrar - 1922 message (including any attachments) is for the sole use of the intended recipient(s) and may contain confidential the Family Educational Rights & Privacy Act (FERPA) and/or applicable state laws. If you received this email error, please delete this email and notify me immediately. |
| | | | |

| | Pheng Xiong, M.Ed. University Registrar, Office of the Registrar p: 808-956-8010 w: manoa.hawaii.edu/registrar e: pxiong@hawaii.edu |
|---|---|
| out not to break down re FERPA Notice: information cove | ups in the Territory are represented in the student body and one of the ideals held by those who guide the University is that these students, working and playing together on our campus, shall go ace differences but to disseminate understanding of these differences, toleration for them, and goodwill. A challenge to us all! - H. MacNeil (University of Hawai'i Registrar - 1922 - 1956) This email message (including any attachments) is for the sole use of the intended recipient(s) and may contain confidential ered under the Family Educational Rights & Privacy Act (FERPA) and/or applicable state laws. If you received this email (including error, please delete this email and notify me immediately. |
| | Pheng Xiong, M.Ed. University Registrar, Office of the Registrar p: 808-956-8010 w: manoa.hawaii.edu/registrar |
| not to break down race diffe FERPA Notice: Th information covered | e: pxiong@hawaii.edu in the Territory are represented in the student body and one of the ideals held by those who guide the University is that these students, working and playing together on our campus, shall go out rences but to disseminate understanding of these differences, toleration for them, and goodwill. A challenge to us all! - H. MacNeil (University of Hawai'i Registrar - 1922 - 1956) his email message (including any attachments) is for the sole use of the intended recipient(s) and may contain confidential d under the Family Educational Rights & Privacy Act (FERPA) and/or applicable state laws. If you received this email (including or, please delete this email and notify me immediately. |
| Rufus Willett Professor and Chair, Ma University of Hawaiʻi a Pronouns: he / him | |
| | Pheng Xiong, M.Ed. Hear my name University Registrar, Office of the Registrar |

- p: 808-956-8010
- w: manoa.hawaii.edu/registrar
- e: pxiong@hawaii.edu

The different racial groups in the Territory are represented in the student body and one of the ideals held by those who guide the University is that these students, working and playing together on our campus, shall go out not to break down race differences but to disseminate understanding of these differences, toleration for them, and goodwill. A challenge to us all! - H. MacNeil (University of Hawai'i Registrar - 1922 - 1956)

FERPA Notice: This email message (including any attachments) is for the sole use of the intended recipient(s) and may contain confidential information covered under the Family Educational Rights & Privacy Act (FERPA) and/or applicable state laws. If you received this email (including attachments) in error, please delete this email and notify me immediately.