

MEMORANDUM OF UNDERSTANDING FOR A DUAL DEGREE PROGRAM BETWEEN

Berry College *and* the University of Hawai'i at Hilo

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This agreement establishes a Dual Degree Program in which an undergraduate student will attend Berry College for approximately three (3) years and then transfer to the University of Hawai'i at Hilo (hereinafter referred to as UHH) to complete coursework required for UHH's Astronomy degree. Participating students that complete all of the requirements outlined in this document shall be awarded a bachelor's degree in an appropriate major from Berry College and a bachelor's degree in Astronomy from UHH.

§1. Program of Study and Degrees Awarded

§1.1 Participating students shall have earned at Berry College

- Approximately three-fourths of the number of credit hours required for the BS degree at Berry College (a minimum of 93 out of the required 124 hours, at least 62 of which must be taken in residence at Berry) including all courses necessary to complete the Foundations curriculum, two writing intensive courses, and an appropriate number of cultural events (at least 3 for each semester in residence at Berry).
- All courses specifically designated to be taken at Berry prior to transfer to Hilo in order to be prepared to complete the Astronomy degree at UHH (Appendix A).

§1.2 Participating students will complete at UHH the courses required for UHH's Astronomy major and any additional courses and credit hours required for a BS degree at UHH.

§1.3 The total program shall satisfy any and all additional requirements for the degrees sought at both Berry College and UHH. A total of at least 156 credit hours is required to obtain both degrees.

§1.4 Upon completion of Berry College's degree requirements, including those required to satisfy a major (e.g., General Physics), a BS degree from Berry College will be awarded, even if the requirements for the UHH Astronomy degree remain incomplete. Satisfying the degree requirements will typically necessitate transferring appropriate completed credit from UHH back to Berry.

§2. Admission and Readmission

§2.1 To be admitted to UHH in the Astronomy Dual Degree Program a student must

- Complete the program of study described in §1.1 at Berry College and obtain a positive recommendation from the designated official at Berry College.

- Meet the minimum grade point average requirements for admission of transfer students to UHH which are in effect at the time the student matriculates at Berry College.
- Submit application materials for evaluation by the Office of Undergraduate Admission at UHH.

§2.2 Because of some programmatic differences between Berry and UHH, the following waivers will be allowed for Berry College students seeking a UHH Astronomy degree as part of this dual degree arrangement:

- Since UHH's PHYS 170/171 (with labs) sequence is 10 credit hours and Berry's comparable PHY 211/212 sequence is 8 credit hours, 2 credit hours of introductory physics will be waived.
- Calculus I, II and Multivariable Calculus (MAT 201, 202 and 203) at Berry College (12 credit hours) will fulfill the UHH Astronomy degree requirements for Calculus I – IV (MATH 205, 206, 231, 232) at Hilo (14 credit hours). Thus, 2 credit hours will be waived. Berry students must still complete MAT 304 (Differential Equations) at Berry prior to transfer.
- The requirement for UHH's Introduction to Computer Science course (CS 150) will be waived for the Astronomy degree.

§2.3 Any Dual Degree student admitted to UHH who does not successfully complete the requirements for the UHH Astronomy degree will still be awarded a degree from Berry College if they have met all Berry College degree requirements, or may be readmitted to Berry College to complete the requirements for a degree.

§3. Program Management and Reporting

§3.1 So as to facilitate the admissions process and promote the academic success of participating students, UHH and Berry College agree to develop, maintain, and improve continuously a program management and reporting system.

§3.2 Each institution will:

- Appoint a program coordinator to coordinate activities, monitor student progress, and evaluate and improve the program. At UHH, the Astronomy Department Chair will serve as the program coordinator.
- Appoint an advisor for each participating student.
- Make readily available current copies of their general catalogs and any other publications or sources of information which may be helpful in advising students.
- Provide timely information about significant changes to the program of study that relate to the preparation of participating students.

- Highlight other information that UHH and Berry College believe helpful to monitor and that will promote the academic success of participating students.

§3.3 Berry College will:

- Identify students interested in the program as soon as possible and provide a list of such students to UHH at the beginning of each academic year.
- Provide UHH admission requirement information to all prospective Dual Degree students.

§3.4 UHH will:

- Provide reports to Berry College at the end of each term in which a Dual Degree student is enrolled that include the record of grades of students participating in the program.
- Provide annual updates, if any, to Berry College regarding the grade point average requirements for admission of transfer students.

§3.5 The program coordinators from each institution will assess the program as needed (but at least every 3 years) in collaboration with participating faculty, advisors, and students so as to continuously improve the program. A report of the assessment and recommendations for improvement will be provided to the UHH Dean of the College of Arts and Sciences, the UHH Chair of Physics & Astronomy, the Director of Undergraduate Admission at UHH, the equivalent officials at Berry College, and to the appointed coordinators at each institution.


§4. Termination/Modification

§4.1 This Memorandum of Understanding is subject to change or modification by mutual written consent between the parties hereto.

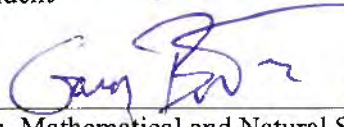
§4.2 This Memorandum of Understanding may be terminated by either party upon written notice to the other party given at least one year in advance of such termination date. It is understood and agreed that any student participating in the program at Berry College specifically tracked for admission to UHH or admitted to UHH under the Dual Degree program will be allowed to complete the program notwithstanding the termination provisions above, so long as the student remains in good academic standing, is continuously enrolled once starting at UHH, and is making measured progress towards completion of a degree program.

Signatures of Responsible Authorities at the Cooperating Institutions:

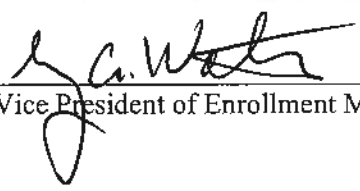
BERRY COLLEGE

 3-10-17

President Date

 3/22/17

Dean, Mathematical and Natural Sciences Date

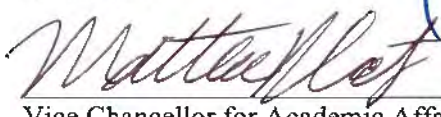
 3/22/17

Vice President of Enrollment Management Date


UNIVERSITY OF HAWAII
AT HILO

 9 April 17

Chancellor Date

 3/24/17

Vice Chancellor for Academic Affairs Date

 3/24/17

Dean, College of Arts and Sciences Date

Appendix A

Dual-Degree Astronomy Program at the University of Hawaii at Hilo with Berry College

1. This agreement makes the following assumptions:

- i. That students transfer to UHH at the end of approximately three years at Berry College after being awarded at least 93 credits.
- ii. That in order to be awarded two BS degrees from both institutions, a minimum of 156 total credit hours must be earned, and all major and degree requirements are met at both Berry College and UHH.

2. Science Courses Required to be taken at Berry prior to Transfer to UHH in order to be prepared to pursue a BS Astronomy Degree

AST 106/L The Solar System(embedded lab): 4

AST 107/L Stars, Galaxies and Cosmology (embedded lab): 4

MAT 201 Calculus I: 4

MAT 202 Calculus II: 4

MAT 203 Multivariable Calculus: 4

MAT 304 Differential Equations: 3

PHY 211/L General Physics I with Calculus (embedded lab): 4

PHY 212/L General Physics II with Calculus (embedded lab): 4

PHY 321I Computational Methods in Physics: 4 *Note: writing intensive course*

PHY 350I Experimental Methods of Physics: 3 *Note: writing intensive course*

PHY 307 Modern Physics: 3

CHM 108/L Introduction to Chemistry (embedded lab): 4

3. Additional Requirements to Earn a BS Degree from Berry College

- i. Complete the Foundations Curriculum. See below for a mapping of Berry courses that match the General Education curriculum at UHH. Note that beyond the mapped courses, 1 KIN course and 1 KIN activity are required.
- ii. Berry's writing intensive requirement is satisfied by taking PHY 321I and 350I.
- iii. Complete an appropriate number of cultural events (at least 3 for each semester in residence at Berry College).
- iv. Complete the requirements for a major at Berry College. The General Physics major is recommended for this dual degree program because it allows credit hours from courses completed at UHH to count towards courses required in the major. An additional 12 hours of courses in physics and/or astronomy at the 300-level or above taken at Berry and/or UHH will satisfy the major.

v. Complete a total of at least 124 credit hours. If a student transfers to UHH with the minimum required 93 credit hours, then an additional 31 credit hours from UHH will be required. A minimum of 15 credit hours at the 300-level and above are required for the Berry BS degree. Therefore, 2 additional credit hours at this level beyond those required prior to transfer are required to be completed.

vi. The Berry College BS degree will be conferred upon meeting all of these requirements.

4. Additional Requirements to Earn a BS Degree in Astronomy from UHH

i. Complete UHH's General Education Program. See below for a mapping of Berry courses that match the General Education curriculum at UHH. In addition to these mapped courses, an additional 3 credit hour course is required to meet the Hawai'i Pan-Pacific requirement; and a 3 credit hour course to meet the Global and Community Citizenship requirement (this may also fulfill Berry's F3 Foundations requirement).

ii. One additional writing intensive course in PHYS or ASTR must be taken at UHH in addition to the two writing intensive courses transferred from Berry College.

iii. Complete the following courses that are required to be taken at UHH to Satisfy the BS Astronomy Major

ASTR 250 Observational Astronomy and Lab: 4

ASTR 350 Stellar Astrophysics and Lab: 5

ASTR 351 Galactic and Extragalactic Astrophysics and Lab: 5

PHYS 331 Optics: 3

PHYS 341 Thermodynamics: 3

Upper division ASTR/PHYS electives: 3 additional elective hours (PHY 350I is the other required elective)

ASTR 495 (A and B) Seminars: 2

iv. Complete at least 30 credit hours at the 300-level or above to satisfy the UHH BS degree requirement. This requirement is satisfied by the 13 credit hours of 300-level and above courses to be transferred from Berry (MAT 304 [3]; PHY 307 [3]; PHY 321 [4]; PHY 350 [3]), along with the 18 credit hours of 300-level and above are required to satisfy the Astronomy major (PHYS 331 [3]; PHYS 341 [3]; ASTR 350 [3]; ASTR 350L [2]; ASTR 351 [3]; ASTR 351L [2]; ASTR 495 A and B [2]; one remaining elective in ASTR or PHYS [3]).

v. In order to be awarded a BS degree from both Berry College and UHH as part of this dual degree program, the cumulative hours earned from both institutions must total at least 156 credit hours. Beyond the 93 required for transfer from Berry, this leaves 63 credit hours to be earned at UHH which requires approximately 2 additional years beyond Berry at 15-16 credit hours per semester to earn both BS degrees. Meeting the requirements for the Astronomy major requires 25 credit hours, and meeting the additional UHH General Education requirement requires 6 credit hours. Thus, An additional 32 credit hours of coursework will be needed to meet the 156 total hours required to earn BS degrees from both institutions.

vi. The UHH BS degree in Astronomy will be conferred upon meeting all of these requirements.

5. The following exceptions for Berry students seeking the Astronomy dual degree apply:

- i. The credits for some equivalent courses are smaller at Berry than at UHH (for example, PHYS 170/171 are 10 credits at UHH and PHY 211/212 are 8 credits at Berry). The 2 "missing" credits from will be waived for Berry College transfers.
- ii. The UHH Astronomy degree requirement for CS 150 is waived for Berry students.
- iii. Calculus I – III (MAT 201, 202 and 203) at Berry College (12 credit hours) will fulfill the UHH Astronomy degree requirements for Calculus I – IV (MATH 205, 206, 231, 232) at Hilo (14 credit hours). Thus, 2 credit hours will be waived. Berry students must still complete MAT 304 (Differential Equations) at Berry prior to transfer.
- iv. Berry College's requirement for completing the last two semesters in residence are waived. Similarly, Berry College's waives 2 hours at the 300-level that are normally required to be completed in residence at Berry College (13 of the 15 hours typically required are satisfied with MAT 304, PHY 307, 321 and 350).

6. Mapping UHH's General Education Program to Berry's Foundations Curriculum (students are to complete Berry's Foundation Curriculum prior to transfer to Hilo, see §1.1)

Hilo Courses

Berry Course equivalents

ENG 100 Composition I
(satisfies Composition)

RHW 102 Sem. in Rhetoric/Writing
(satisfies F1a)

COM 251 Public Speaking

COM 203 Rhetoric and Public Address
(satisfies F1c)

ENG 240 English Lit Greatest Hits
(satisfies Language Arts)

ENG 210/211 British Lit I / II
(satisfies 1 x F4a)

MATH 205 Calculus I
(satisfies 1 x Quantitative Reasoning)

MAT 201 Calculus I
(satisfies F2)

MATH 206 Calculus II
(satisfies 1 x Quantitative Reasoning)

MAT 202 Calculus II
(satisfies F2)

ANTH 100 Cultural Anthropology
(satisfies 1 x World Cultures)

ANT 200 Cultural Anthropology
(satisfies 1 x F4c)

HIST 151/152 World History to/since 1500
(satisfies 1 x World Cultures)

HIS 154/155 World History to/since 1550
(satisfies 1 x F4a)

PHIL 1xx
(satisfies 1 x Humanities)

PHI 1xx
(satisfies 1 x F4a)

DRAM 271 [Introduction to Theatre] *or*
ART 175/176 [Survey of World Art I/II]
(satisfies 1 x Humanities)

THE 201 Experience Theatre *or*
ART 201/202 Survey of Art I/II
(satisfies 1 x F4b)

PSY 100 Survey of Psychology
(satisfies 1 x Social Science)

PSY 101 Introduction to Psychology
(satisfies 1 x F4c)

ECON 100 Intro to Economics
(satisfies 1 x Social Science)
Quantitative reasoning?

ECO 110 Markets and Society
(satisfies 1 x F4c)

CHEM 162/L General Chemistry I
(satisfies 1 x Natural Sciences)

CHM 108/L General Chemistry I
(satisfies 1 x F4d)

ASTR 110/L General Astronomy
(satisfies 1 x Natural Sciences)

AST 107 Stars, Galaxies and Cosmology
(satisfies 1 x F4d)

Note: additional courses from Berry might be suitable for satisfaction of UHH's General Education program. Students should consult the Berry program coordinator prior to enrolling in any course not previously approved.