University of New Hampshire at Manchester

Great Bay Community College

Academic Year 2016-2017

Biotechnology Public Pathways Program

We have partnered with Great Bay Community College to offer a Pathways Program that allows you to smoothly transition your GBCC associate degree to a bachelor's degree program at UNH Manchester. This document will help you turn your A.S. in Biotechnology from GBCC into a B.S. in Biotechnology at UNH Manchester.

Students must take these courses at GBCC…	To fulfill these UNH degree requirements…
ENGL 110 – College Composition I	Discovery writing skills course
BIOL 108 – General Biology I[1]	BIOL 413 – Principles of Biology I
BTEC 105 – Intro to Biotech	Elective credit
MATH 150 – College Algebra **or** MATH 210 – Pre-calculus	No transfer credit for MATH 150. Elective credit for MATH 210
CIS 110 – Introduction to Computers	Elective credit
BTEC 205 – Bioethics	BSCI 501 – Ethical Issues in Biology[2]
BIOL 109 – General Biology II	BIOL 414 – Principles of Biology II
CHEM 115 – General Chemistry I[3]	CHEM 403 – General Chemistry I
BIOL 220 – Genetics[4]	GEN 604 – Principles of Genetics
Discovery-approved fine arts elective[5]	Discovery fine and performing arts course
BTEC 210 – Biotech Research	Elective credit
CHEM 116 – General Chemistry II	CHEM 404 – General Chemistry
BIOL 210 – Microbiology	BMS 503 – General Microbiology
ENGL 215 – Writing Technical Documents	ENGL 502 – Technical and Professional Writing
Discovery-approved social science elective[5]	Discovery social science course **or** SOC 120 – Environment, Technology and Society
BTEC 220 – Biomanufacturing	CHE 651 – Biotech Experience/Biomanufacturing
CHEM 205 – Biochemistry[6]	BMCB 658/659 – General Biochemistry/General Biochemistry Lab
MATH225 – Probability and Statistics[7]	Discovery quantitative reasoning course

Note: See page 3 for information about UNH's Discovery Program courses.

1. This course fulfills requirements for both the Discovery Program (biological science) and Biotechnology major at UNH Manchester.
2. Students must also take the UNH Web-Based Program of Instruction in the Ethical and Responsible Conduct of Research and Scholarly Activity (https://rit.sr.unh.edu/training/rcr.shtml).
3. This course fulfills requirements for both the Discovery Program (physical science) and Biotechnology major at UNH Manchester.
4. Technical electives that substitute for Genetics at GBCC will not necessarily transfer. Taking Genetics will expedite completion of the B.S. at UNH Manchester.
5. See page 3 for the list of Discovery-approved electives.
6. Biochemistry will transfer as a required course. Organic chemistry will transfer only as an elective. Taking Biochemistry will expedite completion of the B.S. at UNH Manchester.
7. This course fulfills requirements for both the Discovery Program (quantitative reasoning) and Biotechnology major at UNH Manchester.

Course titles, names and/or sequencing are subject to change.

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Once you've finished your associate degree at GBCC, complete the following requirements at UNH Manchester to receive your bachelor's degree.

Major Course Requirements:
CHEM 651/653 – Organic Chemistry I/Organic Chemistry Lab 1
CHEM 652/654 – Organic Chemistry II/ Organic Chem II Lab 2
Five advanced biology 600/700 courses (at least one from each of three groups and one writing intensive)
PHYS 401 – Introduction to Physics I
MATH 424B Calculus for Life Sciences* **or** MATH 425 – Calculus I* (if not already completed)
BSCI 701 – Senior Seminar (1 credit)
Capstone (Internship, Research, or Independent Study)

Discovery Program* Course Requirements:
Discovery historical perspectives course
Discovery humanities course
Discovery world culture course
Discovery social science course **or** Discovery environment, technology and society course

University Degree Requirements:
Elective courses to fill remaining credits required for bachelor's degree (128 total)
University writing requirement**

* See page 3 for information about UNH's Discovery program.

** Bachelor degree candidates are required to complete four writing-intensive courses, which must include: English 401 – First Year Writing (or equivalent transfer English composition course) and three additional writing-intensive courses, one in the student's major and one at the 600-level or above.

An advisor at UNH Manchester will provide you with the best possible guidance for course selections each term.

Please also note:

- UNH Manchester accepts a maximum of 64 credits in transfer from 2-year institutions. Only courses completed with a grade of C or better will be accepted as transfer credits.
- Students must earn a minimum overall grade point average of 2.50 at GBCC to be eligible for dual enrollment at UNH Manchester.

Course titles, names and/or sequencing are subject to change.

The Great Bay Community College courses* listed below fulfill UNH Manchester's Discovery Program course requirements:

Writing Skills
ENGL 110G – College Composition I

Quantitative Reasoning
CIS 148G – Intro to Java Programming
CIS 158G – Introduction to C++
MATH 170G – Discrete Mathematics
MATH 215G – Finite Mathematics
MATH 225G – Probability & Statistics
MATH 230G – Calculus I
MATH 235G – Statistics for Engineers & Scientists

Biological Science/DLAB
BIOL 101G – Human Disease
BIOL 106G – Human Body
BIOL 108G – Biology I
BIOL 109G – Biology II
BIOL 110G – Human Anatomy & Physiology I
BIOL 120G – Human Anatomy & Physiology II
BIOL 150G – Nutrition
BIOL 160G – Intro to Environmental Science
BTEC 105G – Intro to Biotechnology

Physical Science
CHEM 110G – Introduction to Chemistry
CHEM 115G – General Chemistry
CHEM 116G – General Chemistry II
ECSI 110G – Earth Science
PHYS 135G – College Physics I
PHYS 136G – College Physics II
PHYS 290G – University Physics I
PHYS 295G – University Physics II

Environment, Technology & Society
BTEC 205G – Bioethics
NATR 105G – Sustainable Agriculture & Food Systems
NATR 229G – Contemporary Conservation Issues & Environmental Awareness
SOCI 120G – Society & Technological Change

Historical Perspectives
HIST 120G – Western Civilization thru 1500
HIST 130G – Western Civilization 1500-Pres
HIST 201G – History of New England
HIST 202G – US History thru 1870
HIST 204G – US History 1870 to Present
HIST 212G – US History since 1945

World Culture
ANTH 101G – Intro to Anthropology
HIST 210G – History of China
HIST 211G – Modern Middle East History

Fine and Performing Arts
ARTS 103G – Fundamentals of Acting
ARTS 105G – Introduction to Music
ARTS 117G – Art History I
ARTS 123G – Drawing I
ARTS 124G – Art, Design & Color
ARTS 125G – Visual Language
ARTS 127G – Art History II
ARTS 137G – Contemporary Art History
DGMT 115G – Intro to Graphic Design

Social Science
AMER 110G – Intro to American Studies
ECON 234G – Macroeconomics
ECON 235G – Microeconomics
GEOG 110G – World Geography
POLS 110G – American Government
POLS 210G – Intro to Political Science
PSYC 110G – Intro to Psychology
PSYC 210G – Human Growth & Development
SOCI 110G – Sociology
SOCI 135G – Sociology of Gender
SOCI 250G – Multi-Ethnic Cross Cultural Relations

Humanities
ENGL 117G – Introduction to Literature
ENGL 120G – Introduction to African-American Literature & Culture
ENGL 200G - Film and Society
ENGL 209G – American Literature through the Civil War
ENGL 212G – Sociology of Gender
ENGL 220G – American Literature after the Civil War
ENGL 222G – Major Writers
ENGL 223G – British Literature to 1800
ENGL 224G – British Literature from 1800-Present
ENGL 225G – Plays of William Shakespeare
PHIL 110G – Introduction to Philosophy
PHIL 215G – World Religions
PHIL 240G – Ethics

Writing Intensive
ENGL 110G – College Composition I
ENGL 213G – Creative Writing
ENGL 214G – Introduction to Creative Nonfiction (formerly College Composition II)

UNH Manchester Bachelor Degree Requirements

To graduate from UNH, students must fulfill course requirements in the following areas: **major** courses, University **Discovery** Program courses and **electives**, totaling 128 credits.

Discovery Program Courses

UNH's Discovery Program builds each student's foundation in general education. To fulfill the Discovery Program, students must take the following courses: one inquiry course[1] (or INQ attribute course); one course in writing skills; one course in quantitative reasoning; as well as one 400- to 600-level course from each of the following Discovery Program categories: Biological Science (BS)[2]; Physical Science (PS)[2]; Environment, Technology and Society (ETS); Fine and Performing Arts (FPA); Historical Perspectives (HP); Humanities (HUMA); Social Science (SS) and World Cultures (WC)[3]

1. The Inquiry requirement shall be waived for students with 26 or more transfer credits.

2. One of these two courses must have a lab component.

3. Also may be satisfied by approved study abroad programs.

** Course titles, names and/or sequencing are subject to change.*

November 2, 2016