

HARFORD COMMUNITY COLLEGE to UNIVERSITY OF MARYLAND EASTERN SHORE – SCHOOL OF PHARMACY

Appendix I: The following page indicates the *course-to-course equivalency*, including general education requirements, as agreed upon within the articulation agreement between the Associate of Sciences Degree, Chemistry, Non-calculus based of Harford Community College and the Doctor of Pharmacy degree program at University of Maryland Eastern Shore.

| HARFORD COMMUNITY COLLEGE to UNIVERSITY OF MARYLAND EASTERN SHORE | | | | | |
|---|------------------------------|---------|--|-----------|----------------|
| Transferrable Prerequisite Requirements | | | | | |
| HCC Course | Area Satisfied | Credits | UMES Equivalent | Credits | Area Satisfied |
| First Semester | | | | | |
| CHEM 111: General Chemistry I (GL) | Program Req./ General Ed. | 4 | General Chemistry (with lab, for science majors) | 4 | |
| ENG 101: English Composition (GE) | General Ed. | 3 | English Composition and Literature | 3 | |
| MATH 109: Precalculus Mathematics (GM) | Program Req. | 4 | | 4 | |
| ECON 101: Macroeconomics (GB) OR ECON 102: Microeconomics (GB) | General Ed. | 3 | Economics | 3 | |
| Physical Education Elective | Program Req. | 1 | | 1 | |
| Second Semester | | | | | |
| BIO 120: General Biology I | Program Elect. | 4 | General Biology (with lab, for science majors) | 4 | |
| CHEM 112: General Chemistry II A (GL) | Program Req. | 4 | General Chemistry (with lab, for science majors) | 4 | |
| MATH 203: Calculus I (GM) | Program Req. | 4 | Calculus | 4 | |
| CMST 210: Group Communication and Leadership (GH) | General Ed. | 3 | Public Speaking/Interpersonal Communication | 3 | |
| Third Semester | | | | | |
| BIO 205: Microbiology OR one of the remaining prerequisite BIO courses required for admissions to the UMES program (see courses below) | Program Elect. | 4 | Microbiology with Lab | 4 | |
| CHEM 207: Organic Chemistry I | Program Req. | 4 | Organic Chemistry (with lab, for science majors) | 4 | |
| MATH 216: Introduction to Statistics (GM) | Program Req./ General Ed. | 4 | Statistics | 4 | |
| PHYS 101: Introductory Physics I (GL) | Program Req. | 4 | Physics | 4 | |
| Fourth Semester | | | | | |
| CHEM 208: Organic Chemistry II | Program Req. | 4 | Organic Chemistry (with lab, for science majors) | 4 | |
| PHYS 102: Introductory Physics II (GL) | Program Req. | 4 | | 4 | |
| Arts/Humanities Elective (GH)* | General Ed. | 3 | | 3 | |
| Behavioral/Social Science Elective (GB)* | General Ed. | 3 | | 3 | |
| Total: | 60 | | | 60 | |

*One of these general education electives must also be a diversity (D) course in order to satisfy HCC's diversity requirement.

Appendix II: Additional Program Requirements: All HCC transfer students seeking the Doctorate of Pharmacy must successfully complete the following additional course work:

| **Prerequisite Courses | | |
|--|----------------|----------------------------|
| HCC Course Information | Credits | UMES Requirement |
| **Remaining Prerequisites: 17 | | |
| BIO 203: Anatomy and Physiology I (GL) | 4 | Anatomy and Physiology |
| BIO 204: Anatomy and Physiology II (GL) | 4 | Anatomy and Physiology |
| Arts/Humanities Elective (GH)*** | 3 | Humanities/Social Sciences |
| Behavioral/Social Science Elective (GB)*** | 3 | Humanities/Social Sciences |
| English Composition or Literature Elective | 3 | English II or Literature |

**Students are required to complete these courses prior to admission to the UMES Doctor of Pharmacy degree program. Prerequisite courses can be taken at HCC or at UMES.

***UMES recommends satisfying this requirement with courses in sociology, psychology, arts, music, or history.

| UMES Program Requirements | | |
|---|----------------|---------------------------|
| UMES Course Information | Credits | Fall/Spring/Summer |
| <i>First Academic Year (SP1)</i> | | |
| PHAR 530 Pharmaceuticals and Biopharmaceutics | 4.5 | Fall |
| PHAR 501 Basics of Drug Information and Intro to Pharmacy Profession | 1.5 | Fall |
| PHAR 510 Fundamentals of Drug Action and Metabolism | 3 | Fall |
| PHAR 511 Genetic Controls of Cell Func., Cell Reprod. and Protein Synthesis | 2.5 | Fall |
| PHAR 512 Metabol. of Carbohydrates, Lipids, and Amino Acids | 4 | Fall |
| PHAR 523 Endocrine System: Pharm. and Med. Chem. | 1.5 | Fall |
| PHAR 540 Pharmacy Administration I – Health Care Delivery | 2 | Fall |
| PHAR 550 Pharmaceutical Calculations | 2 | Fall |
| PHAR 542 Concepts in Diversity and Communication For The Pharmacist | 3 | Fall |
| PHAR 561 Professional Development I | 1 | Fall |
| PHAR 571 IPPE I | 5 | Fall |
| PHAR 520 Principles of Neurobiology and Neuropharmacology | 1 | Spring/Summer |
| PHAR 525 Neuropharmacology and Medicinal Chemistry | 3.5 | Spring/Summer |
| PHAR 521 CV & Renal: Pharm. and Med. Chem. | 2 | Spring/Summer |

| | | |
|---|-----------|---------------|
| PHAR 522 GI & GU: Pharm. and Med. Chem. | 1 | Spring/Summer |
| PHAR 513 Hematology and Immunology | 4 | Spring/Summer |
| PHAR 531 Pharmacokinetics | 3.5 | Spring/Summer |
| PHAR 524 Toxicology | 1 | Spring/Summer |
| PHAR 541 Pharmacy Law | 1.5 | Spring/Summer |
| PHAR 514 Biostatistics and Clinical Trial Design | 1.5 | Spring/Summer |
| PHAR 543 Public Health for Pharmacists | 2 | Spring/Summer |
| PHAR 544 Direct Patient Care in Pharmacy Practice | 3 | Spring/Summer |
| PHAR 562 Professional Development II | 1 | Spring/Summer |
| PHAR 572 IPPE II | 5 | Spring/Summer |
| Total SP-1 SCH Credits | 60 | |
| <i>Second Academic Year (SP-2)</i> | | |
| PHAR 640 Pharmacy Admin II: Management | 3 | Fall |
| PHAR 610 PTMM: Principles of Pharmacotherapy | 2 | Fall |
| PHAR 614 PTMM: Pulmonology and Ophthalmology | 2 | Fall |
| PHAR 611 PTMM: Fluids, Electrolytes and Nephrology | 2 | Fall |
| PHAR 612 PTMM: Cardiology | 5.5 | Fall |
| PHAR 630 Sterile Products | 1.5 | Fall |
| PHAR 641 Practice of Drug Information and Literature Evaluation | 2 | Fall |
| PHAR 622 PTMM: Endocrinology and Urology | 3 | Fall |
| PHAR 661 Professional Development III | 1 | Fall |
| PHAR 671 IPPE III | 2 | Fall |
| PHAR 624 Integration of Pharmacy Practice I | 2.5 | Fall |
| PHAR 650 Top 200 Drugs | 1 | Fall |
| PHAR 609 Therapeutics of Self-Care and OTC Products | 2 | Fall |
| PHAR 619 PTMM: Neurology | 3 | Spring/Summer |
| PHAR 618 PTMM: Psychiatry | 2.5 | Spring/Summer |
| PHAR 615 PTMM: Gastroenterology | 3 | Spring/Summer |
| PHAR 613 PTMM: Immunology and Rheumatology 3 | 3 | Spring/Summer |
| PHAR 616 PTMM: Infectious Disease I | 3 | Spring/Summer |
| PHAR 617 PTMM: Infectious Disease II | 3 | Spring/Summer |
| PHAR 620 PTMM: Hematology/Oncology | 3 | Spring/Summer |
| PHAR 660 Scientific Writing | 1 | Spring/Summer |
| PHAR 625 Integration of Pharmacy Practice II | 2.5 | Spring/Summer |

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|--|--------------|---------------|
| PHAR 662 Professional Development IV | 1 | Spring/Summer |
| PHAR 672 IPPE IV | 2 | Spring/Summer |
| Elective courses* | 6 | Spring/Summer |
| Total SP-2 SCH Credits | 62.5 | |
| Third Academic Year (SP-3) | | |
| Required Advance Practice Pharmacy Experiences-APPEs | 5 | Fall |
| PHAR 700 APPE-Advanced Community Practice | 5 | Fall |
| PHAR 701 APPE-Advanced Institutional Practice | 5 | Fall |
| PHAR 702 APPE- Acute Care | 5 | Fall |
| PHAR 703 APPE- Ambulatory Care | 5 | Fall |
| Elective APPEs (Select 4)† | 20 | Fall |
| APPE Patient Care Elective | | |
| PHAR 711 APPE – Home Infusion | | |
| PHAR 713 APPE – Emergency medicine | | |
| PHAR 714 APPE – Hematology/Oncology | | |
| PHAR 715 APPE – Patient Care | | |
| APPE Systems Elective | | |
| PHAR 704 APPE - Public Health | | |
| PHAR 710 APPE - Drug Information | | |
| PHAR 712 APPE – Management and Leadership | | |
| PHAR 720 APPE – General Elective | | |
| PHAR 799 Professional Seminar | 2.0 | Fall |
| Total SP-3 SCH 42.0 | 42.0 | |
| Program total | 241.5 | |

† At least one elective must come from each category, patient care and systems.

SUMMARY:

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| Total credits hours to transfer from Harford Community College: | 60 |
| Total credit hours in remaining prerequisite courses: | 17 |
| Total credit hours of Required Major Courses at UMES: | 164.5 |
| <hr/> Total credit hours for Pharm. D. degree from UMES: | 241.5 |