RUTGERS
Ernest Mario School of Pharmacy

Ability-Based Outcomes (ABO) Curricular Map

	First Professional Year												Second Professional Year											Third Professional Year										Fourth Professional Year								Professional Electives																		Professional Electives																
	01:694:301 - Introductory Biochemistry & Molecular Biology	30:718:304 - Pathophysiology	30:721:301 - Introduction to Pharmaceutics and Lab	30:725:308 - Pharmacy Practice Management	30:725:320 - Intro. to Pharmaceutical Care	30:159:315 - Molecular Biology & Pharmaceutical Biotechnology	30:715:306 - Pharmaceutical Chemistry	30:718:320 - Introduction to Pharmacology	30:721:320 - Drug Delivery & Lab	30:725:340 - Principles of Pharmaceutical Economics	30:725:329 - Concepts in Pharmacy Practice	30:725:330 - Introductory Practice Experience	30:158:420 - Pharmaceutical Microbiology	30:715:409 - Medicinal Chem I	30:718:405 - Pharmacology I	30:725:420 - Cardiopulmonary Therapeutics	30:725:470 - Drug Information & Literature Evaluation	30:715:410 - Medicinal Chem II	30:718:406 - Pharmacology II	30:721:430 - Intro Biopharmaceutics & Pharmacokinetics	30:725:415 - Poison Management & Drug Abuse	30:725:475 - Infectious Disease Therapeutics	30:725:480 - Intermediate Practice Experience	31:725:555 - Clinical Pharmacokinetics	31:725:560 - Clinical Immunology / Hematology / Oncology Therapeutics	31:725:565 - Renal / GI / Nutrition Therapy	31:725:570 - Physical Assessment	31:725:585 - Pharmacy Communications I	31:725:545 - Pharmacy Law & Bioethics	31:725:550 - Self Care & Home Care	31:725:587 - Pharmacy Communications II	31:725:590 - Endocrine Therapy & Special Patient Populations	31:725:595 - Neuropsychiatric Therapeutics	Adv. Practice Experience 1 (Community Practice)	Adv. Practice Experience 2 (Hospital Practice)	Adv. Practice Experience 3 (Ambulatory Practice)	Adv. Practice Experience 4 (Acute Care)	Adv. Practice Experience 5 (Internal Medicine)	Adv. Practice Experience 6 (EMSOP Faculty)	Adv. Practice Experience 7 (Clinical Other)	Adv. Practice Experience 8 (Elective)	30:158:402 - Diet, Nutrition, and Disease Prevention	30:715:451 - Medicinal Chemistry: Research Techniques and Principles	30:715:452 - Principles of Drug Design	30:715:453 - Herbals and Nutriceuticals	30:718:401 - Theoretical Aspects of Pharmacology	30:718:409 - Pharmacogenetics	30:720:301 - Introduction to Research	30:720:401 - Bench Research in Pharmacy	30:725:422 - Gerontology Pharmacy Practice	30:725:423 - Medical Writing	30:725:424 - History of Pharmacy	30:725:427 - Community Practice Management	30:725:428 - Hospital Practice Management	30:725:429 - Introduction to the Pharmaceutical Industry	30:725:481 - Pediatric Pharmacy Practice	30:725:482 - Leadership for Pharmacy Professionals	30:725:483 - Adventures in Pharmacy Practice	30:725:484 - Women's Health Issues	30:725:485 - Herbals and Alternative Medicines	30:725:486 - Clinical Research Design	30:725:488 - Introduction to Pharmacoepidemiology	31:725:578 - Strategies in HIV Therapeutics	31:725:579 - Advanced Pharmacotherapy Applications	31:725:581 - Advanced Neuropsychiatric Pharmacology	31:725:582 - Critical Care Pharmacotherapy	31:725:583 - Pharmaceutical Advertising	31:725:584 - Managed Care	22:223:607 - Pharmaceutical Industry: Issues, Structure & Dynamics	22:373:621 - Legal, Regulatory, and Ethical Issues in the Pharmaceutical Industry	22:373:622 - U.S. Health Care Systems	PHCO 0501 Health Systems and Policy	PHCO 0502 - Principles of Epidemiology	PHCO 0503 - Introduction to Environmental Health	PHCO 0504 - Introduction to Biostatistics	PHCO 0505 - Health Education and Behavioral Science in Public Health
I. Pharmaceutical Care																																																																											
a. Provide patient-centered care: design, implement, monitor, evaluate, and adjust pharmaceutical care plans that are patient-specific and evidence-based.					I		I				I	I		I				I		I	M		M	M	A	M	A	A		M	A		A	A	A	A	A	A	A	A	A									A						M			M				M	M	M	M		M								
i. Identify, obtain and evaluate patient information including medication, laboratory, and disease state histories.					I		I				I	I		I		M		I			M	A	M	I	A	M		A		M	A	A	A	A	A	A	A	A	A	A	A				I	A	I			A			M			I			M	M			M		M	M		M								
ii. Identify and/or use instruments and techniques related to patient assessment and diagnosis.						I	I					I	I			M						A	M	I	A	I	A	A		M	A	A		A	A	A	A	A	A	A	A						M						M			I			M				M		M			M								
iii. Identify and define the terminology, signs, and symptoms associated with diseases and medical conditions.		M			I		I	I				I		I	M	M		I	M	I	M	A	M	I	A	I	A	A		M	A	A	A	A	A	A	A	A	A	A	A	M			I	A	I	M	M	A		I	M			M			M	M			M	A	M	M	I	M								
iv. Identify and evaluate patient factors, genetic factors, biosocial factors, and concurrent drug therapy that influence the maintenance of wellness and the prevention or treatment of a disease or medical condition.	I	M	I		I	I	I	I				I	I	I	M	M		I	M			A	M	I	A	M		A		M	A	A	M	A	A	A	A	A	A	A	A	M			I	A	A			M			M			M			M	M			M		M		I	M								
v. Identify specific mechanisms of actions, uses, and indications for drug products.	I				I	I	I	I				I	I	I	M	M		I	M	I	M	A	M	M	A	M		A		M	A	A	A	A	A	A	A	A	A	A	A					M	A			A			M			M			M	M			M	A	M	M	M	M								
vi. Evaluate drug therapy for the presence of pharmacotherapeutic duplications and interactions with other drugs, food, diagnostic tests, and monitoring procedures.						I	I	I			I	I		I	M	M		I	M			A	M	I	A	I		A		M	A	A	A	A	A	A	A	A	A	A	A						I	M	M	A			M			M			M	M			M	M	M		I									
vii. Identify contraindications, warnings, and precautions associated with a drug product's active and inactive ingredients.			I		I			I			I	I		I	M	M		I	M		M	A	M	I	A	I		A		M	A	A	A	A	A	A	A	A	A	A	A				I	I	M	M	M	A			M			M			M	M			M	M	M	M		M								
viii. Identify the physicochemical properties of drug substances that affect their solubility, pharmacodynamic and pharmacokinetic properties, pharmacologic actions, and stability.			I				M	I	M			I		A	M			A	M	I		M	M	M	A									A	A	A	A	A	A	A	A		M	M	I	A		M	M				M			M									M	M		M								
ix. Interpret and apply pharmacodynamic and pharmacokinetic principles to calculate and determine appropriate drug dosing regimens.												I				I				I	M	M	M	M	A							A		A	A	A	A	A	A	A	A					A	M	M	M	I			M			M			M					A	M	M										
x. Interpret and apply biopharmaceutic principles and the pharmaceutical characteristics of drug dosage forms and delivery systems, to assure bioavailability and enhance patient compliance.			I		I		I		M			I		I		I		I		I		M	M	M	A					I				A	A	A	A	A	A	A	A				I	M	I	M	M				M			M			M						M	M										
xi. Identify pharmacotherapeutic outcomes and endpoints.					I	I		I			I	I			M	M			M	I	M	A	M	M	A	M		A		I	A	A	M	A	A	A	A	A	A	A	A						A	M	M	M			M			A			M				M	M	M	M	I	M								
xii. Assess and evaluate patient signs and symptoms and results of monitoring tests to determine achievement of desired outcomes and to assess for adverse reactions and recommend appropriate pharmacotherapeutic alternatives.		M			I			I				I			M	M			M	I	M	A	M	M	A	M				M		A	A	A	A	A	A	A	A	A	A					M	M			M			M			M			M	I			M	M		M										
xiii. Assure safe and accurate preparation and dispensing of medications.				I	I		I		M		I	I		I				I			M		M	I	A	I				M				A	A	A	A	A	A	A	A												M			M										M										
1. Read and interpret written (or via computerized physician order entry) prescriptions.											I	I											M	I	A			A		M	A			A	A	A	A	A	A	A	A															M																				
2. Receive, transcribe, and interpret verbal prescriptions.											I	I											M			I				M				A	A	A	A	A	A	A	A															M																				
3. Recognize when a given prescription falls outside of the usual dose range, duration of use, or indication.			I		I				M		I	I		I		M		I				A	M	I	A			A		M	A	I		A	A	A	A	A	A	A	A															I																				
4. Determine whether a medication order should be filled based on appropriateness of order and compliance with laws and regulations.					I						I	I											M			I		M	A		M			A	A	A	A	A	A	A	A															I																				
5. Perform calculations to compound, dispense and administer medication, including calculation of rate of IV drug administration.			I						M			I								I		M	M	I	A	I								A	A	A	A	A	A	A	A															I										M										
6. Calculate or convert drug concentrations, ratio strengths, and drug dose conversions.			I						M			I								I		M	M	I	A							I	M	A	A	A	A	A	A	A	A															M										M										
b. Provide population-based care: develop and implement population-specific, evidence-based disease management programs and protocols based upon analysis of epidemiologic and pharmacoeconomic data, medication use criteria, medication use review, and risk reduction strategies.					I																		I		M	I				I				A	A	A	A	A	A	A	A																								M			M								
i. Provide medication therapeutic management.					I											M										I				I			I	A	A	A	A	A	A	A	A												M							M					M			M								
ii. Develop medication usage criteria and conduct and analyze medication use reviews.					I						I												I			I				I					A	A	A	A	A	A	A												M															M								
iii. Interpret epidemiologic and pharmacoeconomic data relevant to specific diseases and their management.										M						I						M	I		M					I				A	A	A	A	A	A	A	A												M								M	M					I	M			M		M		M	
c. For patient-centered and population-based care:																																		A	A	A	A	A	A	A	A																																			
i. Communicate and collaborate with prescribers, populations members, care givers, and other involved health care providers to engender a team approach to patient care.					I							I											M					A	M	M	A		M	A	A	A	A	A	A	A	A										M	I													M			M			I	I		I		I
ii. Communicate pharmacotherapy-related problems and/or recommendations for therapy optimization to the appropriate healthcare professionals, as well as to the patient or caregiver.					I					I		I											M	I	A			A	M	M	A		A	A	A	A	A	A	A	A	A																		M						M	M		M								
iii. Retrieve, analyze, and interpret the professional, lay, and scientific literature to provide drug information to health care providers, patients, and to the public.					I		I			I	I	I		I		I	M	I					M		A			A		I	A		I	A	A	A	A	A	A	A	A				M	M					M									M	M	M			M		I	M	I		I			I		M
iv. Identify and analyze emerging issues, products, and services that may impact patient or population-based therapeutic options.					I	I	I			I		I	I	I	M	I	M	I	M			M	M		A					M			I	A	A	A	A	A	A	A	A				M	M						M						M	M	M					M			M	I	I	I	I		I		I
II. Systems Management																																																																											
a. Manage and use resources of the health care system, in cooperation with patients, prescribers, other health care providers, and administrative and supportive personnel to promote health; to provide, assess, and coordinate safe, accurate, and time-sensitive medication distribution; and to improve therapeutic outcomes of medication use.				M	I		I				I	I		I				I					M							I				A	A	A	A	A	A	A	A											I		M															I			I					
i. Manage human, physical, medical, informational, and technological resources through the ability to ensure efficient, cost-effective use of these resources in the provision of patient care.				I			I			M	I	I		I			I	I					M							I				A	A	A	A	A	A	A	A													M																		M	M	M				
ii. Manage medication use systems through the ability to apply patient- and population-specific data, quality improvement strategies, medication safety and error reduction programs, and research processes to minimize drug misadventures, and optimize patient outcomes.					I			I		I	I	I											M											A	A	A	A	A	A	A	A													M															I								
iii. Manage medication use systems to participate in the development or enhancement of drug use and health policy.				I						I	I	I											M											A	A	A	A	A	A	A	A													M															I				M				
iv. Assess and interpret patient pharmacy benefits and interact with third-party payers.				I	I						I	I											M						M					A	A	A	A	A	A	A	A																																			
v. Assure safe, accurate and time-sensitive medication distribution.				I							I	I																						A	A	A	A	A	A	A	A													M															I								
III. Professionalism: exhibit professional attitudes and behaviors.																																																							M	M																				
a. Become a self-directed and life-long learner.		M			I		M	I			I	I		M	M	I		M	M			I	M		A		A	A	M	M	A		A	A	A	A	A	A	A	A	A			M	M	A		M	M	I		M	M		M	M			M	M					M		M	M		M	M	M		M	M	M
b. Establish and maintain professional, ethical, compassionate, and caring relationships with patients.					I		I				I	I				I							M				A	A	A	M	A		A	A	A	A	A	A	A	A	A									I		M	M		M	I			M	M					M			I								
c. Respect the autonomy, dignity, values, and confidentiality of each patient.					I						I	I		I		I		I					M					A	A	M	A		M	A	A	A	A	A	A	A	A							M	M	I		M	M			M				M					M			I								
d. Serve individual, community, and societal needs.					I						I	I											M					A	A	M	A		M	A	A	A	A	A	A	A	A									I		I	M		M	A									M					M	M	M				M
e. Provide pharmaceutical care in accordance with legal, ethical, social, economic, and professional guidelines.					I						I	I											M					A	A	M	A			A	A	A	A	A	A	A	A									I		M	M			I														M		M				
f. Act as an advocate to advance the profession of pharmacy.		M			M		I	I							M	I			M								A		A	M				A	A	A	A	A	A	A	A											M	M		M	I	M	M							M			I		M						
g. Demonstrate awareness of key issues and debates in healthcare.		M			M		I	I			I	I		I	M	I		I	M				M		A				A	M				A	A	A	A	A	A	A	A	M				M						M	M					M							M			M				M				M
h. Act with honesty and integrity in professional relationships.		M					I	I			I	I			M	I			M			I	M				A	A	A	M	A			A	A	A	A	A	A	A	A					M						M	M		M		M																			
i Maintain professional competence.		M			I		I	I			I	I		I	M	I		I	M				M				A	A	A	M	A		M	A	A	A	A	A	A	A	A					M		M	M	M		M	M		M												I									
j Interact with other healthcare providers in a professional manner, respecting their individual values and abilities.					I					I	I	I											M				A	A	A	M	A		A	A	A	A	A	A	A	A	A					A									M		M			M								I			I	I	I	I	I	I
IV. Public Health																																																																											
a. Provide health care information regarding nutrition, lifestyle, and other non-drug measures that are effective in promoting health or preventing or minimizing progression of a disease or medical condition.		M			I	I		I				I		I	M	M	M	I	M				M		A			A		M	A		M	A	A	A	A	A	A	A	A	M			M		M			M			M							M							I	M								M
b. Provide information regarding the documented uses, adverse effects, and toxicities of dietary supplements.					I	I	I					I		I	M	I	M	I	M				M		M					M				A	A	A	A	A	A	A	A	M			M		A			I	M		M						M	M							M									I
c. Provide health care information regarding the prevention and treatment of diseases and medical conditions, including emergency patient care.		M				I	I	I				I	I	I	M	M	M	I	M				M		A					M			M	A	A	A	A	A	A	A	A									M	M	I	M							M								M								M
d. Provide information regarding the selection, use, and care of medical/surgical appliances and devices, self-care products, and durable medical equipment, as well as products and techniques for self-monitoring of health status and medical conditions.						I	I					I		I		I	M	I					M		M					M				A	A	A	A	A	A	A	A										M		M																							I
e. Promote wellness, health improvement and disease prevention in collaboration with patients, communities, at-risk populations, and other members of an interdisciplinary team of health care providers.						I				I		I		I		M		I					M							M			M	A	A	A	A	A	A	A	A									M		I	M							M			M					M								M
f. Identify at-risk patients and populations for screenings and preventive care interventions.	I				I	I						I				M					M	M	M		A					M				A	A	A	A	A	A	A	A									M			M										M					M								M

I - Introductory | M - Intermediary | A - Advanced