


## IMPLEMENTATION OF PHARMACOGENOMICS



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### Western University College of Pharmacy

- ⦿ Established in 1996
- ⦿ Number of students:
  - P-1: 120 students
  - P-2 to P-4: 140 students
- ⦿ Team-based learning approach
- ⦿ Didactic Curriculum (2.5 years):
  - First Year: modified block system
  - Second & Third Year: block system (18 days/course)

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### Pharmacy curriculum at a glance

Year 1	Self-care 1	Pharmaceutical Sciences IPPE 1	Self-care 1	Pharmaceutical Sciences IPPE 1
Year 2	Pharmacy Practice (I – X) IPPE 2			
Year 3	Pharmacy Practice (XI – XVI)			APPE
Year 4	APPE		AE	

IPPE = Introductory Pharmacy Practice Experience (4 weeks X3)  
 APPE = Advanced Pharmacy Practice Experience (6 weeks X6)  
 AE = Advanced Elective (16 weeks)

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### P-1 Curriculum

FALL		SPRING		
Pharmacological Basis of Therapeutics 1	Pharmaceutics/Biopharmaceutics 1	Pharmacological Basis of Therapeutics 3	Pharmacokinetics	Research Methods & Biostat
Immunology	Pharmacological Basis of Therapeutics 2	Biotechnology and Pharmacogenomics	Pharmacological Basis of Therapeutics 4	
Intro to Pharmacy & Self-Care 1		Self-Care 2		
IPPE		IPPE		
Interprofessional Education		Interprofessional Education		

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### Impetus for Pharmacogenomics Curriculum

- 1996 – 2003:
  - Pharmacogenomics absent in the curriculum
- 2003: Human Genome Project completion
  - Generate reference DNA sequence for entire human genome
- 2004 – 2005:
  - Started 3 hours of pharmacogenomics introduced in Pharmaceutics/Biopharmaceutics course

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### Pharmacogenomics Curriculum Advocacy

- 2004: International Society of Pharmacogenomics
  - Recommendations to include pharmacogenomics in health professional curriculum
- 2006: Announcement of changes in ACPE Standards 2007
  - Pharmacogenomics/genetics
    - Genetic basis for disease and drug action
    - Genetic basis for alteration of drug metabolism
    - Genome and proteomic principles in relation to disease and drug development
    - Genetic basis for individualizing drug doses

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### Curriculum Committee Discussion

- ACPE Standards 2007
- Impact of Human Genome Project
  - Rapid increase in pharmacogenomics research and application into clinical medicine
- Preparing student pharmacists for future clinical practice
  - Personalized risk/benefit assessment & pharmacotherapy based on pharmacogenomics data

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### Actions

- Curriculum Committee & Pharmaceutical Sciences Department identified need for faculty expert in pharmacogenomics
  - *Curricular and research needs*
- Official search committee convened in 2006
- 2006 – hired a faculty member with expertise in pharmacogenomics
- Creative restructuring of the curriculum to make more room for pharmacogenomics

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### Changes to the Curriculum

Academic Year	Pharmacogenomics Contact Hours
2006 – 2007	7 hours
2007 – 2008	14 hours
2008 – 2009	Course title changed to "Biotechnology and Pharmacogenomics"  14 hours + 4 hours on clinical pharmacogenomics  <i>Additional clinical pharmacogenomics incorporated throughout therapeutics series in P-2 and P-3</i>
2009 – 2010	16 hours + 4 hours on clinical pharmacogenomics

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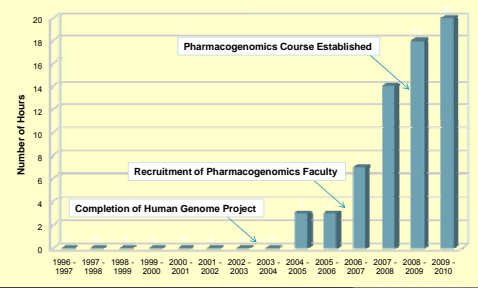
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## P-1 Pharmacogenomics Curriculum



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