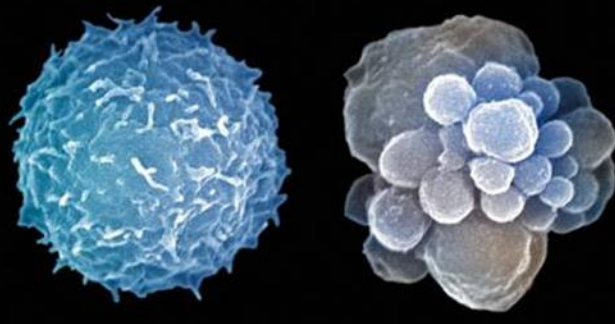


# Fundamentals of Cellular Medicine



## GNTD7069C Fall Semester 2021 Syllabus

The Fundamentals of Cellular Medicine course prepares students for the organ system courses by presenting foundational concepts and principles in primarily cellular medicine. This course will build upon the molecular concepts and processes introduced in Fundamentals of Molecular Medicine to examine complex systems involving cell differentiation and specialization. This includes topics in early embryology, the blood and lymphatic systems, the cell-mediated immune system, epithelial and connective tissues, and the nervous system. Classes of infectious microbes will be introduced along with a brief overview of their infectious process, interactions with the host immune system, and the laboratory diagnosis of infectious agents. An overview of the immune system in hyper-sensitivities, autoimmune diseases, transplantation and the various classes of immunodeficiencies will be presented. Other topics include cellular adaptation and aging, tissue repair, neoplasia pathology, and the anatomy, function and pharmacology of the autonomic nervous system. The material learned in Fundamentals will form the background for all courses that follow, and will be expanded upon as organ-specific functions are discussed.

**Course Directors** John J. Monaco, PhD (Email: [monacojj@uc.edu](mailto:monacojj@uc.edu))  
Tel: 513-558-5521 • Office MSB 3261

Keith Stringer, MD (Email: [keith.stringer@uc.edu](mailto:keith.stringer@uc.edu))  
Tel: 513-636-9876 • Office CCHMC B4 214

MS Program | Bryan Mackenzie, PhD (Email: [bryan.mackenzie@uc.edu](mailto:bryan.mackenzie@uc.edu))

**Instructors** Ensemble

Registration	Course #	Section	Class #	Credits	Class Schedule*
	<b>GNTD7069C</b>	<b>001</b>	<b>20719</b>	<b>5 G</b>	Mon-Fri, 8:00AM-12:00PM

Assessment	Weekly Assessments (50%)	Small Groups (9%)	Tetanus POPS (1), ANS Drugs, cases (1) (P/F)	Practical Exams: (16%)	End of Block Exam (25%)
	<i>Multiple-choice, computer-administered 5 tests, 10% each = 50%</i>	<i>IRAT/GRAT (4% each) Peer Teaching (1%)</i>	<i>Case presentations discussed in small groups (4 students/group) and then presented to entire class (PowerPoint submission)</i>	<i>Material from histology (12%) modules and Gross Anatomy (4%)</i>	<i>Multiple-choice, NBME-administered Comprehensive test covering all material in the course</i>

**Grading** Grading will be in line with CoM policy with no adjustment for the distribution of scores. There is no option for the remediation of grades after the scheduled final exams (i.e. no make-up test).

<b>A</b>	90%–100%	<b>B+</b>	82%–84.99%	<b>B–</b>	74%–77.99%	<b>F</b>	Below 70%
<b>A–</b>	85%*–89.99%	<b>B</b>	78%–81.99%	<b>C</b>	70%–73.99%	* Note: threshold for A- (85%) may be adjusted up or down based on overall class average	

**Prerequisites** Acceptance into Special Master's Program in Physiology

**Attendance** Lectures are recorded and streamed online and attendance is not mandatory. Students are responsible for the material presented in all didactic activities. Attendance is required at all learning sessions which involve team/small group based activities, all assessments and examinations and any session that has a patient as a presenter or has a panel of presenters.

**Auditing** No auditing option

**Canvas, LEO & Email Policy** Messages sent via Canvas/LEO will be considered sufficient notice.

**Textbooks** *For Human Genetics and Cytogenetics:*  
Jorde, Carey and Bamshad, Medical Genetics, 2015, 5th edition, Elsevier Publishing (print copy on reserve and also available electronically)  
ISBN 978-0323188357

*For Pharmacology:*  
Katzung BG, Basic and Clinical Pharmacology. 2014, 13th edition, Lange/McGraw, paper (print copy on reserve and also available electronically). The 14th edition will be available later in 2017.

Katzung BG and AJ Trevor, Examination and Board Review: Pharmacology, 11th edition, 2015, Lange/McGraw, ISBN 978-0071826358.

*For Biochemistry:*  
Lieberman MA and AD Marks, Marks' Basic Medical Biochemistry, A Clinical Approach, 2013, 4th edition, Wolters Kluwer Lippincott Williams & Wilkins. (print copy on reserve and available electronically through the Health Sciences Library). The 5th edition has just come out, and readings will refer to both the 4th and 5th edition.

*For Cell Biology/Histology:*  
Ross, MH, Pawlina, W. Histology: A Text and Atlas, 7th edition. 2016. Lippincott Williams & Wilkins. This book is available electronically when purchased. It is also available as an e-book through the library. Print copies of 6th and 7th edition on reserve.

*For Physiology:*  
Textbook of Medical Physiology, 13th edition, by John E. Hall and Arthur C. Guyton, 2016, Elsevier. This will be available electronically in the HSL with no limitations. Older print editions on reserve.

Boron, WF and EL Boulpaep. Medical Physiology - A cellular and molecular approach, 2nd edition, 2012, Saunders Publishing. Print copy on reserve and also available electronically through the HSL with no limitations.

*For Pathology:*  
Kumar, V, Abbas, AK, Fausto, N. Robbins and Cotran Pathologic Basis of Disease, 9th edition, 2015. Elsevier Saunders. (available as an e-book through the library, print copy of 8th edition on reserve)

*For Nutrition:*  
Mahan, K, Escott-Stump, S, Raymond, J. Krause's food & the nutrition care process, Saunders, ISBN-978-0323340755. 14th edition (2016). Print copy on reserve.

*For Immunology:*  
Abbas, A. and A. Lichtman, Basic Immunology – Functions and Disorders of the Immune System, 5th edition, 2016. ISBN-13: 978-1416055693 (available electronically, print copy of 4th edition on reserve).

For access through the Health Sciences Library use the following link to find all textbooks which have electronic access:

<http://libraries.uc.edu/hsl/research/com-ebooks.html>

**Class schedule is posted in LEO (<https://medicineonline.uc.edu/lcms>). Schedule is subject to change, and students are required to log-in regularly to for changes in the schedule.**