UCI School of Medicine
Curriculum and Educational Policy Committee

630F Gastroenterology

This course is available to UC Irvine students only.

Course Name Gastroenterology
Course Director Robin Zachariah, MD

Academic Year 2020-2021

1. Course Director, Coordinator and General Administrative Information

FACULTY AND STAFF

Name	Office Location	Phone	Email
Director: Robin Zachariah MD	City Tower, Ste. 400, Orange, CA 92868	714-456-6745	rzachar1@uci.edu
Coordinator: Sonha Castelli	333 The City Blvd., W., Ste. 400, Orange, CA 92868	714-456 -6745	sncastel@uci.edu

DESCRIPTION
During the Gastroenterology elective the student will be expose to patients with esophageal disorders, peptic ulcer disease, inflammatory bowel disease, gastrointestinal bleeding, pancreatitis, and acute and chronic liver diseases. The student will observe and participate in the diagnostic workup of these patients, their plan of therapy, and in their follow-up. The student will observe and assist in gastrointestinal diagnostic and therapeutic endoscopy and in the acute care of gastrointestinal emergencies. The student will work closely with the attending on the Gastroenterology Service and with the Fellows in training. There are three types of teaching activities within the division. These include bedside rounds, teaching conferences and outpatient clinics. They are attended by the students, residents, and Fellows in Gastroenterology and are conducted by the attending faculty member. They are designed to elucidate the important clinical features of the patients problem and correlate them with known pathophysiological considerations.

PREREQUISITES
This course is intended for 3rd-year students enrolled in the undergraduate medical education program at University of California, Irvine School of Medicine (UCISOM).

RESTRICTIONS
This course is intended for 3rd-year students enrolled in the undergraduate medical education program at University of California, Irvine School of Medicine (UCISOM).

COURSE DIRECTOR
Dr. Robin Zachariah completed his bachelors degree in neuroscience at the University of Pittsburgh and then went on to obtain his medical degree at Geisinger Commonwealth School of Medicine in 2014. He then moved to Cleveland, to pursue Internal Medicine training at Case Western Reserve University. After completion of his Internal Medicine Residency, he moved to Orange County to pursue a Gastroenterology Fellowship at the University of California - Irvine Medical Center. After completion of his fellowship, he was offered the opportunity to stay on as faculty and as an Associate Program Director for the Gastroenterology Fellowship.

Sonha Castelli is the course coordinator for 630F course.

INFORMATION FOR THE FIRST DAY
Who to Report and Location to Report on first day.

At 7AM at the start of their rotation, they will page the inpatient General GI fellow 714-506-3015 so they will know where to meet the fellow. Typically, this will be at the CDDC at the UCI Medical Center. On their first day of the rotation, they will be assigned 1-2 new patients to see. Medical students are expected to follow their patients daily in the form of prerounding, sharing their assessment & plan during team rounds, and communicating with the primary team. As new consults arrive, medical students will be able to follow new patients and learn about new cases. We also request that medical students present 1-2 short presentations (around 5-10 minutes) regarding GI topics of their choice during this rotation.

Time to Report on First Day: 7:00 am

SITE: UC Irvine Medical Center/LBVAMC

DURATION: 4 weeks

Scheduling Coordinator: UC Irvine students please call (714) 456-8462 to make a scheduling appointment.

Periods Available: The time of the course must be pre-approved by the elective director at least 3 months prior to the start of the course. No exceptions.

NUMBER OF STUDENTS ALLOWED: 1 per rotation block

WHAT STUDENTS SHOULD DO TO PREPARE FOR THE COURSE
See that attached document.

COMMUNICATION WITH FACULTY
Questions about logistics should be directed to the Course Coordinator. Direct questions, comments, or concerns about the course can be directed to the Course Director. Contact information and office location are at the beginning of this document.

The Course Director is also available to meet in person. Please email sncastel@uci.edu to arrange an appointment. To ensure that your email will not be lost in the large volume of email received, please use the following convention for the subject line:

SUBJECT: COURSE NAME, your last name, your issue (e.g. XXX, Smith, Request for appointment)

2. Course Objectives and Program Objective Mapping

The following are the learning objectives for the 630F course. Students are expected to demonstrate proficiency in these areas in order to satisfactorily complete the course. In addition, the extent of a student's mastery of these objectives will help guide the course evaluation and grade.

Course Objective	Mapped UCI School of Medicine Program Objective	Sub Competency	Core Competency
Be experienced in conducting a history and physical for gastroenterology patients.	B-1. The ability to competently conduct a medical interview and counseling to take into account patient health beliefs, patient agenda and the need for comprehensive medical and psychosocial assessment	Medical Interview	Skillful
	B-2. The ability to competently perform a complete and organ-system-specific examination including a mental health status examination	Physical Exam	Skillful

Be experienced at writing up and presenting gastroenterology patients.	B-3. The ability to articulate a cogent, accurate assessment and plan, and problem list, using diagnostic clinical reasoning skills in all the major disciplines	Patient Management	Skillful
Be knowledgeable in the basic concepts of gastrointestinal pathophysiology and the clinical aspects of gastrointestinal disorders.	A-2. Knowledge of the pathogenesis of diseases, interventions for effective treatment, and mechanisms of health maintenance to prevent disease	Disease Pathogenesis and Treatment	Knowledgeable
Be knowledgeable in the planning and performance of diagnostic procedures for the evaluation and treatment of gastroenterology patients.	A-2. Knowledge of the pathogenesis of diseases, interventions for effective treatment, and mechanisms of health maintenance to prevent disease	Disease Pathogenesis and Treatment	Knowledgeable
Demonstrate professionalism by attending all rounds, conferences and lectures assigned.	C-1. Honesty and integrity reflecting the standards of the profession, in interacting with colleagues, patients, families and professional organizations	Professionalism	Altruistic

3. Course Resources

TEXTS AND READINGS: SUGGESTED
See the attached document below.

4. Major Exams, Assignments and Grading

MANDATORY SESSIONS

Session Title	Location
Wednesday 7AM Modules	Zoom Invite

MAJOR ASSIGNMENTS AND EXAMS

GRADING
Medical Students are graded using the following scale: Honors (H), Pass (P), Fail (F), and Incomplete (I). For further information, please review the Grading Policy.

You have 30 days from the date of the grade to appeal any aspect of this grade. Please contact your Clerkship/course Director should you have any questions

Requirements for "Pass": To receive a grade of Pass, students must demonstrate successful performance in all the following areas:

- Knowledge
- Patient Care
- Practice-Based Learning
- Interpersonal & Communication Skills
- Professionalism
- Systems-Based Practice

Requirements for "Honors": To receive a grade of Honors, students must demonstrate exceptional performance all the following areas:

- Knowledge
- Patient Care
- Practice-Based Learning
- Interpersonal & Communication Skills
- Professionalism
- Systems-Based Practice

Grounds for "Incomplete": You will not be issued a grade until all elements of the course have been completed.

REMEDIATION
Remediation, if needed will be designed by the Course Director to suit the issue at hand.

Grounds for "Fail": You will receive a grade of "Fail" if the requirements for passing the course have not been met. Please refer to the Grading Policy for the impact of the "Fail" grade to the transcript.

Attached document

Inpatient Gastroenterology Medical Student Curriculum

We hope that students rotating on the consultation service have the opportunity to become familiar with both common and uncommon disease topics in gastroenterology & hepatology. They will be able to learn about diagnosis & management for diagnoses that include GI bleeding, acute liver failure, Crohn's disease flares, ulcerative colitis flares, chronic nausea and vomiting, volvulus, acute pancreatitis, and cholangitis. Students will meet patients and perform history & physicals under the guidance of the GI attendings & fellows. They will develop their critical thinking skills by creating assessment & plans for their patients and incorporating evidence-based medicine and society-based guidelines. They will also have the opportunity to observe endoscopic procedures including esophagogastroduodenoscopy (EGD), colonoscopy, endoscopic ultrasound (EUS), and endoscopic retrograde cholangiopancreatography (ERCP). They will also learn about pre-procedural and post-procedural considerations for these procedures.

At 7AM at the start of their rotation, they will page the inpatient General GI fellow 714-506-3015 so they will know where to meet the fellow. Typically, this will be at the CDDC. On their first day of the rotation, they will be assigned 1-2 new patients to see. Medical students are expected to follow their patients daily in the form of prerounding, sharing their assessment & plan during team rounds, and communicating with the primary team. As new consults arrive, medical students will be able to follow new patients and learn about new cases. We also request that medical students present 1-2 short presentations (around 5-10 minutes) regarding GI topics of their choice during this rotation.

In this document, we have created a list of commonly encountered conditions that are seen on the inpatient consult service. For each topic, we have included relevant clinical questions and a corresponding guideline or article that can be referenced to find the answer. Many of these articles are from the four major GI societies: ASGE (American Society for Gastrointestinal Endoscopy), ACG (American College of Gastroenterology), AGA (American Gastroenterological Association), and AASLD (American Association for the Study of Liver Diseases). Some of them are also from the ASGE's Indications for Endoscopy website. If students have issue accessing these documents, they should let the fellow know. We hope that students will learn these high-yield GI clinical pearls and also learn skills for life-long self-directed learning.

GI Bleeding

Topic	Learning Objectives	Resources for Self-Directed Learning
Nonvariceal Upper GI Bleeding	Understand the importance of volume resuscitation for all patients with GI bleeding. Understand the data behind the recommendation for a restrictive transfusion strategy. Recognize the guideline recommendations for standard timing of endoscopy for UGIB. Be able to list features of GI bleeding that would warrant earlier timing of endoscopy. Understand the role of PPI treatment before endoscopy and its impact on need for endoscopic therapy, mortality, rebleeding, and need for surgery. Recognize what three features seen on endoscopy constitute high-risk stigmata and require continued hospitalization after endoscopy. Recognize what two features seen on endoscopy do not require hospitalization after endoscopy.	ACG 2012 Guideline "Management of Patients with Ulcer Bleeding"
	Understand the data behind the recommendation for a restrictive transfusion strategy.	International Consensus Group's 2019 Guideline "Management of Nonvariceal Upper GI Bleeding: Guideline Recommendations from the International Consensus Group" published in Annals of Internal Medicine
	Understand the sensitivity of nasogastric lavage for risk stratifying upper GI bleeding. Know how to interpret different results of gastric aspirate (blood,	ASGE 2012 Guideline on "The role of endoscopy in the management of acute non-variceal upper GI bleeding"

	coffee grounds, nonbloody material) from NG lavage.	
Variceal Upper GI Bleeding	Know what physical exam findings, lab findings, imaging findings, medical history would lead you to suspect variceal bleeding.	ASGE 2014 Guideline on "The role of endoscopy in the management of variceal hemorrhage"
Peptic Ulcer Disease	Understand the role of PPI treatment before endoscopy and its impact on need for endoscopic therapy, mortality, rebleeding, and need for surgery.	Cochrane 2012 Review "Proton pump inhibitor treatment initiated prior to endoscopic diagnosis in upper GI bleeding"
Lower GI Bleeding	Understand the importance of volume resuscitation for all patients with GI bleeding. Recognize the importance of adequate bowel preparation for colonoscopy for GI bleeding. Be able to list three items on the differential for lower GI bleeding and associated features of presentation or history that would lead you to include them on the differential.	ACG 2016 Guideline "Management of Patients with Acute Lower GI Bleeding"
	Know what radiologic studies are or are not appropriate for localization of lower GI bleeding.	ACR (American College of Radiology) Appropriateness Criteria for Radiologic Management of Lower GI Tract Bleeding – Summary Table & Narrative File
Colonic Ischemia	Be able to list common presentations for colonic ischemia. Recognize the diagnostic Identify risk factors for colonic ischemia in a patient's past medical history and medication list. Be able to diagnose severe colonic ischemia (physical exam, imaging findings, lab findings, endoscopic	ACG 2016 Guideline "Management of Patients with Acute Lower GI Bleeding"

	findings) and indications for surgical consultation. Recognize the role of antibiotics for moderate or severe colonic ischemia.	

Miscellaneous Topics

Topic	Learning Objectives	Resources for Self-Directed Learning
Sigmoid volvulus & cecal volvulus	Recognize the signs and symptoms that warrant immediate surgical consultation. Be able to list the classic imaging findings for sigmoid and cecal volvulus on X-ray, barium enema, and CT. Recognize which of the two conditions (sigmoid volvulus, cecal volvulus) can be managed endoscopically. Recognize rates of recurrence of volvulus after endoscopic decompression and the role of surgery after decompression.	ASGE 2020 Guideline "The Role of Endoscopy in the Management of Acute Colonic Pseudo-obstruction and Colonic Volvulus"
Acute Colonic Pseudo-obstruction	Recognize the signs & symptoms that warrant immediate surgical consultation. What cecal diameter is a generally accepted cut-off associated with a very high risk of impending perforation? List contraindications to neostigmine. Be able to explain the role of colonic decompression in treatment of ACPO, rates of success, and associated risks.	ASGE 2020 Guideline "The Role of Endoscopy in the Management of Acute Colonic Pseudo-obstruction and Colonic Volvulus"

Pancreatic & Biliary Disease

Topic	Learning Objectives	Resources for Self-Directed Learning
Cholangitis	What is Charcot's triad? Is Charcot's triad more sensitive or	Tokyo Guidelines 2018: Diagnostic Criteria and

	more specific for acute cholangitis? What is the Tokyo Guidelines 2018 diagnostic criteria for acute cholangitis? What is the difference in criteria between suspected diagnosis and definite diagnosis? What is the definition of Grade I, II, and III acute cholangitis? What is the data shared in the Tokyo Guidelines about urgent or early drainage for these classes?	Severity Grading of Acute Cholangitis Tokyo Guidelines 2018: Initial Management of Acute Biliary Infection and Flowchart for Acute Cholangitis
	Recognize the difference between MRI noncontrast, MRI with IV contrast, MRCP. Recognize which studies are or are not appropriate for evaluation for common bile duct stones, ductal stones, and masses.	American College of Radiology Statement about ACR Appropriateness Criteria re: Jaundice EASL Clinical Practice Guidelines on the prevention, diagnosis, and treatment of gallstones (2016)
Acute Pancreatitis	What are the diagnostic criteria for acute pancreatitis? Recognize why an abdominal ultrasound is recommended for all patients with acute pancreatitis. Be able to list five different causes of pancreatitis. What is the definition of severe acute pancreatitis by the revised Atlanta criteria (2013)? What is the definition of aggressive IV hydration that is recommended for patients in the first 24 hours of presentation? What fluid is preferred for these patients? What is the data related to prophylactic antibiotics for infected necrosis as described in the guidelines?	ACG Guidelines 2013 "Management of Acute Pancreatitis"

	When should enteral nutrition be restarted in acute pancreatitis?	

Liver Disease

Topic	Learning Objectives	Resources for Self-Directed Learning
Acute Liver Failure	What is the definition of acute liver failure?	AASLD Position Paper: The Management of Acute Liver Failure: Update 2011
Abnormal LFTs	Be able to distinguish between cholestatic injury and hepatocellular injury. What is a healthy normal ALT in men and women? How long do anti-HCV antibodies take to become positive after exposure? Understand how to interpret hepatitis B surface antigen (HBsAg), hepatitis B surface antibody (Anti HBs), hepatitis B core antibody total (Anti HBc total) for patients with chronic hepatitis B, passive immunity to hepatitis B, active immunity to hepatitis B. Understand scenarios where HBV DNA, hepatitis B e antigen (HBeAg), Hepatitis B e antibody (Anti HBe) are indicated.	ACG Guideline 2017 "Evaluation of Abnormal Liver Chemistries"

Inflammatory Bowel Disease

Topic	Learning Objectives	Resources for Self-Directed Learning
Ulcerative Colitis Flare	What is the definition of a severe UC flare (compared to a mild flare) based upon Truelove & WItts criteria? Recognize the difference between induction therapy	AGA 2020 Guidelines "Management of Moderate to Severe Ulcerative Colitis"

	and maintenance therapy for UC. Be aware of the risk of colectomy in patients with severe disease.	
	Recognize the poor outcomes associated with NSAIDs in patients with UC. Recognize the importance of pharmacologic VTE prophylaxis in patients with acute flare. Recognize signs and symptoms of toxic megacolon.	ACG 2019 Guidelines "Ulcerative Colitis in Adults"
	Be familiar with various inpatient protocols for hospitalized patients with UC flares.	University of Michigan Severe Ulcerative Colitis Protocol (2017) Society of Hospital Medicine's "Inpatient Management of Acute Severe Ulcerative Colitis" (2019)
	Be able to recognize bowel wall thickening on a CT scan.	Radiology Assistant https://radiologyassistant.nl/abdomen/bowel-wall-thickening-ct-pattern
Clostridium difficile infection	Understand how toxin enzyme immunoassays (EIA) work. Understand how glutamate dehydrogenase (GDH) immunoassays work. Understand how nucleic acid amplification tests (NAAT)	IDSA 2018 Clinical Practice Guidelines for C Difficile Infection

	work. Recognize how these tests compare in terms of sensitivity & specificity. Understand the limitations of these tests.	

Miscellaneous topics

Topic	Learning Objectives	Resources for Self-Directed Learning
Dysphagia	Learn how to obtain a good history for dysphagia. Recognize pertinent questions to help distinguish between mechanical causes versus motility causes of dysphagia. What esophageal diameter is associated with dysphagia?	ASGE Guideline 2014 "The role of endoscopy in the evaluation and management of dysphagia"
Nausea and vomiting	Identify elements of a history that would distinguish between GI causes and non-GI causes of nausea and vomiting. Understand how a gastric emptying study is performed, and what the diagnostic criteria for gastroparesis is. Understand the long-term risks related to metoclopramide and how to counsel patients about use of this drug.	ACG Guidelines 2018 "Chronic nausea and vomiting: evaluation and treatment" AGA Technical Review on Nausea and Vomiting (2001)
Chronic abdominal pain	What are the diagnostic criteria for narcotic bowel syndrome? What are the diagnostic criteria for functional abdominal pain syndrome?	Clinical Gastroenterology & Hepatology 2008 article by Dr. Douglas Drossman "Severe and refractory chronic abdominal pain: treatment strategies"
	What are the diagnostic criteria for functional dyspepsia? What are the diagnostic criteria for cyclic vomiting syndrome?	Gastroenterology 2016 article by Stanghellini et al "Gastroduodenal disorders"

Diarrhea	What is the evidence surrounding empiric antimicrobial therapy for acute diarrhea infections?	ACG Guidelines 2016 "Diagnosis, Treatment, and Prevention of Acute Diarrheal Infections in Adults"
	What is the definition of chronic diarrhea? What are alarm features that warrant further testing for chronic diarrhea?	Clinical Gastroenterology & Hepatology 2017 article by Schiller et al "Chronic Diarrhea: Diagnosis and Management"