As you review the simple cases, you will find that there are 36 cases.
There will be some questions from cases 1-4, 7, 9-12, 19-30, 32-33, and 35-36 for the clerkship exam. Listed below are the learning objectives from the cases.

Learning Objectives:

Case 1

1. Student will become familiar with the differential diagnosis of acute chest pain and how to narrow the differential based on specific physical exam findings.
2. Student will be able to define and discuss the pathogenesis, signs, and symptoms of the acute coronary syndromes.
3. Student will gain an understanding of cardiovascular risk factors and the primary and secondary prevention of ischemic heart disease.
4. Student should be able to develop an appropriate diagnostic and treatment plan—including recommended lifestyle modifications—for a patient presenting with acute coronary syndrome.

Case 2

1. Identify the symptoms and signs of chest pain characteristics of angina pectoris.
2. Categorize the patients’ symptoms as angina pectoris, atypical angina, or non-cardiac chest pain.
3. Obtain, document, and present an appropriately complete medical history that differentiates among the common etiologies of chest pain.
4. Obtain a history of a patient with chest pain that contains information about those clinical characteristics that are typical of angina pectoris and includes risk factors of coronary heart disease.
5. Perform a physical exam that includes identifying the presence of dyspnea and anxiety, obtaining accurate vital signs, and performing heart, lung, and vascular exams.
6. Order appropriate laboratory and diagnostic studies based on patient demographics and the most likely etiologies of chest pain.
7. Recommend primary and secondary prevention of ischemic heart disease through the reduction of cardiovascular risk factors (e.g. controlling hypertension and dyslipidemia, aggressive diabetes management, avoiding tobacco, and aspirin prophylaxis).
8. Prescribe appropriate anti-anginal medications when indicated and communicate potential adverse reactions.

Case 3

1. List the common causes of syncope.
2. Determine the important aspects of the history and physical exam in a patient with syncope.
3. Discuss the approach to the evaluation and treatment of a patient with syncope.
4. Identify atrial fibrillation on an electrocardiogram.
5. List the common causes of atrial fibrillation.
6. Discuss the approach to the evaluation and treatment of a patient with atrial fibrillation.
7. Explain how atrial fibrillation and mitral stenosis may lead to syncope.

Case 4

1. Interpret neck vein findings for jugular venous distention and abdominal jugular reflux.
2. Identify and translate auscultatory findings of the heart including rate, rhythm, S3/S4, and murmurs.
3. List the major pathologic states which cause dyspnea.
4. Compare the differing etiologies and signs of left-sided vs. right-sided heart failure.
5. Utilize the staging system for heart failure.
6. Discuss the factors leading to symptomatic exacerbation of HF, including ischemia, arrhythmias, anemia, hypertension, thyroid disorders, non-compliance with medications and dietary restrictions, and use of nonsteroidal anti-inflammatory drugs.
7. Interpret B-type natriuretic peptide results.
8. Recommend pharmacologic management of heart failure.

Case 9

1. Take a substance abuse history and provide counseling in a non-judgmental manner.
2. Recognize the clinical presentations of substance abuse and recommend treatment.
3. Apply diagnostic criteria for alcohol abuse, dependence, and addiction.
4. Recommend basic prevention and treatment for alcohol withdrawal.
5. Describe the pathophysiology of the principle types of abdominal pain: parietal, visceral, vascular, referred.
6. Determine when to consult a surgeon regarding abdominal pain.
7. Explain the indications and utility of hepatobiliary imaging studies including MRCP and ERCP.

Case 10

1. Perform medication reconciliation upon admission and discharge.
2. Identify the common causes for and symptoms of upper and lower gastrointestinal blood loss, including recognizing the distinguishing features of each.
3. Define hematemesis, melena, and hematochezia.
4. Examine the role of contributing factors in gastrointestinal bleeding such as Helicobacter pylori infection, non-steroidal anti-inflammatory drugs, alcohol, coagulopathies, and chronic liver disease.
5. Demonstrate the indications for, contraindications to, and complications of blood
transfusion, including describing system errors that produce transfusion reactions.
6. Identify and manage transfusion reactions.
7. Describe the difference between adverse events and medical errors.
8. Develop an appropriate evaluation and treatment plan for patients with a
  gastrointestinal bleed that includes:
    a. Establishing adequate venous access
    b. Administering crystalloid fluid resuscitation
    c. Ordering blood and blood product transfusion
    d. Determining when to obtain consultation from a gastroenterologist for
       upper endoscopy

Case 11

1. Understand pathophysiology of conjugated and unconjugated hyperbilirubinemia.
2. Describe the common types of liver diseases and their risk factors (including
   inherited and acquired).
3. Obtain an appropriate history to elicit risk factors for viral hepatitis.
4. Be familiar with the CAGE screening tool for alcohol abuse.
5. Know when to order laboratory tests for evaluation of liver disease and when a
   liver biopsy might be indicated.

Case 12

1. List symptoms and signs indicative of an acute/surgical abdomen.
2. Approximate a likelihood ratio of the common causes of abdominal pain based on
   pain pattern, the quadrant the pain is located, and abdominal exam findings.
3. Generate a prioritized differential of the most important and likely causes of a
   patient’s abdominal pain and recognize specific history, physical exam, and
   laboratory findings that distinguish between the various conditions.
4. Recommend a basic management plan for diverticulitis.
5. Describe indications for and methods of deep vein thrombosis prophylaxis.

Case 19

1. Classify the causes of anemia based on red blood cell size.
2. Understand the meaning and utility of various components of the hemogram (e.g.,
   hemoglobin, hematocrit, mean corpuscular volume, and random distribution
   width).
3. Classify anemia into hypoproliferative and hyperproliferative categories using the
   reticulocyte count/index.
4. Use information regarding the diagnostic utility of the various tests for iron
   deficiency (e.g., serum iron, total iron binding capacity, transferring saturation,
   ferritin) when selecting a lab evaluation for iron deficiency.
5. Identify key historical and physical exam findings in the anemia patient.
6. Recognize common morphologic changes on a peripheral blood smear.
7. Develop a further evaluation and management plan for a patient with anemia.

Case 20

1. Distinguish between common etiologies of fever of unknown origin (FUO) in immunocompetent patients and those infected with the human immunodeficiency virus (HIV).
2. Learn the Centers for Disease Control’s (CDC’s) criteria for diagnosis of acquired immunodeficiency syndrome (AIDS).
3. Discuss principles of antiretroviral therapy, including importance of regimen adherence.
4. Describe relationship between the CD4+ lymphocyte count and risk of opportunistic infection.
5. Recognize common HIV-associated infections.
6. List appropriate diagnostic tests for HIV-positive patient presenting with fever.

Case 21

1. Describe clinical presentation of sepsis syndromes.
2. Discuss the common causes for and symptoms of lower gastrointestinal blood loss including: gastrointestinal tumors, diverticulosis, and ischemic colitis.
3. Recommend appropriate empiric therapy based on an understanding of urinary tract infection pathogenesis and resistance patterns.
4. Take an accurate blood pressure.
5. Interpret a urinalysis.
6. Recommend laboratory and diagnostic tests to evaluate GI bleeding which include (when appropriate): stool and gastric fluid tests for occult blood, CBC, PT/PTT, and colonoscopy.
7. Develop appropriate treatment plan for patients with fever including the selection of an initial, empiric treatment regimen for patients with life threatening sepsis.
8. Understand what a physician’s role is when a patient is no longer capable of medical decision-making.

Case 22

1. Discuss the common causes of acute dyspnea, their pathophysiology, symptoms, and signs.
2. List the common pneumonia pathogens (viral, bacterial, mycobacterial, and fungal) in immunocompetent and immunocompromised hosts.
3. Describe radiographic findings associated with specific pathogens.
4. Identify bronchial breath sounds, rales (crackles), rhonchi, and wheezes, signs of pulmonary consolidation, and pleural effusion on physical exam.
5. Recognize the most common complications of pneumonia.
6. Recommend when to order diagnostic laboratory tests—including complete blood counts, sputum gram stain and culture, blood cultures, and arterial blood gases—
how to interpret those tests, and how to recommend treatment based on these interpretations.

7. Select an appropriate empiric antibiotic regimen for community-acquired, nosocomial, immunocompromised-host, and aspiration pneumonia, taking into account pertinent patient features.

8. Discuss the Centers for Medicare and Medicaid Services (CMS) and Joint Commission’s quality measures for smoking cessation advice and vaccination against pneumonia and influenza in patients with pneumonia and other pulmonary disorders.

Case 23

1. List the most common causes of chronic kidney disease (CKD).
2. Describe pathophysiology and clinical signs of uremia.
3. Tell about the pathophysiology of hyperkalemia, hypocalcemia, and hyperphosphatemia in the setting of chronic kidney disease.
4. Educate patients about the significance of proteinuria in CKD.
5. Appropriate recommend the use of ACE-Inhibitors and ARBs in the management of CKD.
7. Summarize the staging of CKD based on GFR.

Case 24

1. Discuss types of patient isolation procedures and their indications.
2. Describe indications, contraindications, and complications of lumbar puncture.
3. Demonstrate knowledge of cerebrospinal fluid analysis and its interpretation.
4. List risk factors for and precautions against the acquisition of nosocomial infection.

Case 25

1. Recognize that altered mental status in an older inpatient is a medical emergency and requires that the patient be evaluated immediately.
2. Differentiate between delirium, dementia, and depression.
3. Identify the risk factors for developing altered mental status, including:
   a. Dementia
   b. Advanced age
   c. Substance abuse
   d. Comorbid physical problems such as sleep deprivation, immobility, dehydration, pain, and sensory impairment
4. Thoroughly review prescription medications, over-the-counter drugs, and supplements, and inquire about substance abuse when evaluating delirium.
5. Recognize the symptoms and signs of the most common and most serious causes of altered mental status, including metabolic causes, such as hyponatremia.
6. Perform a thorough diagnostic evaluation of altered mental status.
7. Manage the most common causes of altered mental status.
8. Describe the pathophysiology, presenting signs and symptoms, laboratory interpretation, and the management of hyponatremia, including the risk of too rapid or too delayed therapy of hyponatremia.
9. Write appropriate fluid and replacement orders for patients with common electrolyte and metabolic disturbances.

**Case 26**

1. Identify the presenting signs and symptoms of intoxication and overdose of common substances of abuse.
2. Discuss the pathophysiology of simple and mixed acid-base disorders.
3. Calculate the anion gap and explain its relevance to determining the cause of a metabolic acidosis.
4. Recognize the presenting signs and symptoms and list the differential diagnosis of hypernatremia.
5. Understand how homelessness can influence patient’s access to illicit substances and interfere with ability to enable effective treatment.
6. Describe the pathophysiology of ethylene glycol toxicity.
7. Evaluate for calcium oxalate crystalluria and relate the presence to ethylene glycol toxicity and other disorders.
8. List the differential of anion-gap metabolic acidosis.
9. List the differential of hypernatremia.
10. Manage ethylene glycol toxicity, including the use of the antidote fomepizole.
11. Describe how to correct hypernatremia.

**Case 27**

1. Be aware of red flags in history of back pain.
2. Become familiar with helpful techniques to use when it is necessary to give bad news to a patient.
3. Outline the evaluation and management of fever in the neutropenic patient.

**Case 28**

1. Accurately interpret arterial blood gas.
2. Explain PFT results and use them to recommend appropriate therapy.
3. List major pathologic states causing dyspnea.
4. Relate the utility of supplemental oxygen and the potential dangers of overly aggressive oxygen supplementation.
5. Describe the indications for, benefits of, and side effects of therapies for COPD including: beta-agonists, anticholinergics, methylxanthines, and inhaled and systemic corticosteroids.
6. Recommend appropriate laboratory evaluation for suspected COPD exacerbation.
7. Describe the benefits of immunizing adults with COPD against influenza and pneumococcal infection.
Case 29

1. Describe the common causes of tachypnea.
2. Accurately record a respiratory rate.
3. List indications for thoracentesis.
4. Know laboratory findings of transudative and exudative effusions.
5. Demonstrate understanding of indications for performing a purified protein derivative (PPD) test and how results should be interpreted given a range of clinical scenarios and patient histories.

Case 30

1. List risk factors for the development of a deep vein thrombosis (DVT).
2. Recognize the signs and symptoms of DVT and pulmonary embolism (PE).
3. Generate a prioritized differential diagnosis of DVT/PE based on specific physical findings using pre-test probability tools.
4. Understand the indications for and utility of various diagnostic tests and describe their interpretation.
5. Develop an appropriate management plan for DVT/PE, including appropriate use and monitoring of heparin and warfarin.

Case 32

1. Know the approach to patients with possible rheumatologic disease.
2. Know typical clinical and laboratory findings of rheumatoid arthritis, systemic lupus erythematosus (SLE), dermatomyositis, and systemic vasculitis.
3. Compare and contrast the various causes of inflammatory polyarthritis.

Case 33

1. Compare the pathophysiology of major etiologies of acute renal failure including decreased renal perfusion (pre-renal), intrinsic renal disease, and acute renal obstruction (post renal).
2. Calculate fractional excretion of sodium and apply it to distinguish between pre-renal and intrinsic renal disease.
3. Develop appropriate initial management plan for acute renal failure including volume management, dietary recommendations, drug dosage alterations, electrolyte monitoring, and indications for dialysis.
4. Identify risk factors for contrast-induced nephropathy and recommend steps to prevent this complication.
5. Interpret a urinalysis, including microscopic examination for casts, red blood cells, white blood cells, and crystals.
6. Calculate the anion gap and generate a differential diagnosis for metabolic acidosis.
**Case 35**

1. Become familiar with the definition of fever of known origin (FUO).
2. Consider etiologies of fever in normal hosts and in special populations (e.g., patients with human immunodeficiency virus {HIV}, recent travel or immigration, intravenous drug use).
3. Obtain and present an age-appropriate patient history that helps differentiate among likely etiologies for fever.
4. Understand when to obtain diagnostic and laboratory tests for fever.
5. Develop an appropriate treatment plan for patient with FUO.

**Case 36**

1. Know the signs, symptoms, and complications of portal hypertension.
2. Describe the presenting signs and symptoms of spontaneous bacterial peritonitis (SBP).
3. Complete an abdominal exam, including evaluation for presence of ascites.
4. Understand the indications for paracentesis and how to analyze the ascitic fluid using the serum to ascites albumin gradient (SAAG).
5. Describe the components of obtaining informed consent.
6. Become familiar with the indications for hepatic transplantation referral in end stage liver disease.