

<b>Program of Study</b>	<b>:</b>	<b>General Medicine</b>
<b>Course</b>	<b>:</b>	<b>Internal Medicine IV</b>
<b>Abbreviation</b>	<b>:</b>	<b>IN0/VA041</b>
<b>Schedule</b>	<b>:</b>	<b>320 hours of practical training and seminars</b>
<b>Course Distribution:</b>		<b>6th year, 11th and 12th semesters</b>
<b>Number of Credits</b>	<b>:</b>	<b>24</b>
<b>Course Form</b>	<b>:</b>	<b>Practical training and seminars</b>

In the academic year 2021/2022, 6th year (11th and 12th semesters) General Medicine the courses and state comprehensive (rigorosum) examinations of the Internal Medicine are organized and coordinated by the Department of Internal Medicine II – Gastroenterology and Geriatrics

**Teachers:** Prof. MUDr. Miloš Táborský, CSc. FESC, FACC, MBA  
 Doc. MUDr. Ondřej Urban, Ph.D.  
 Prof. MUDr. Pavel Horák, CSc.  
 Prof. MUDr. Tomáš Papajík, CSc.  
 MUDr. Petr Jakubec, Ph.D.  
 Prim. MUDr. Karel Navrátil

**Course:** blocks

**Teachers in charge of practical training:**

- MUDr. V. Doupal, Ph.D, Department of Internal Medicine I – Cardiology
- Prof. MUDr. J. Ehrmann, CSc., Department of Internal Medicine II – Gastroenterology and Geriatrics
- Doc. MUDr. M. Halenka, Ph.D., Department of Internal Medicine III – Nephrology, Rheumatology and Endocrinology
- Prof. MUDr. E. Faber, CSc., Department of Hemato-Oncology
- MUDr. S. Genzor, Ph.D., Department of Respiratory Medicine
- Prim. MUDr. K. Navrátil, Department of Internal Medicine, Military Hospital Olomouc

**Objectives:**

A detailed introduction into the organization of the departments of internal medicine, including specialized centers and laboratories of supplementary or supporting branches of internal medicine. Mastery of a broad spectrum of basic practical skills in internal medicine. Extended theoretical knowledge and acquisition of “clinical thinking”.

**Requirements:**

According to the 2021/2022 time-table, 6th year English Program General Medicine students will have their Internal Medicine **practical training 4. 10. – 26. 11. 2021**; the Internal Medicine **state exams will be held on 13.12.-17.12.2021**.

Students will have their pre-state examination internal medicine practical training at an inpatient ward of one of the “parent departments” (see above – teachers in charge) for 8

weeks, including 1 week at the Department of Internal Medicine of the Military Hospital Olomouc.

Granting of credit will be recorded in the study credit book by the teacher in charge from the respective “parent department” on Friday in the 8th week of practical training (or one day prior to the practical part of the state examination). The credit will be granted upon submitting a written record of individual practical training at internal medicine departments and the Department of Internal Medicine of the Military Hospital Olomouc (a form called “Internal medicine practical training IN0/VA041 - 6th year, academic year 2021/2022” is a part of this syllabus). Apart from individual evaluation of the student’s performance, the form will state whether the student met the practical training requirements. The filled-in form signed by the teacher in charge will be a part of the student’s individual file presented to the state examination board.

### **Content:**

Practical training preceding the internal medicine state examination aims at extending theoretical knowledge and acquiring other practical skills in undergraduate internal medicine. During their practical training, students will mainly perform activities in fact equal to duties of a house physician, with special attention being paid to bedside work supervised by an experienced physician.

Under the physician’s supervision, students have to be able to elaborate clinical notes, draw a diagnostic conclusion, propose further diagnostic and therapeutic procedures, and write a discharge report. During a ward round, students have to report on the clinical course of a patient’s disease. Each student should spend at least one day at an ICU of the respective department in order to become acquainted with principles of work in the unit (regardless of the ICU specialty).

Each student should spend at least one day at an outpatient ward of the respective department of internal medicine in order to become familiar with the principles of work in outpatient wards (regardless of the ward specialty).

Students will participate in other examinations of patients they care for or other patients as recommended by the supervising physician. The obligatory examinations are listed on the back side of the aforementioned form. For meeting all the requirements, each student’s activities mentioned in the final evaluation are important.

Practical skills to be mastered by the students include injection techniques, interpretation of ECG curves, description of basic radiographs, including CT scans, compilation of a basic diet including that for diabetic patients, and interpretation of basic laboratory markers.

### **Recommended literature:**

1. Lectures and seminars of IN0, IN1, IN2, IN3
2. Chrobák L., Gral T., Kvasnička J.: Physical Examination In Internal Medicine. Grada Publishing spol. s. r. o., Praha, 2003 (reprint), Czech Republic, ISBN 8024706172.
3. Macleod, J., Munro J. F., Campbell, I. W.: Macleod’s Clinical Examination. 10<sup>th</sup> ed., Churchill Livingstone, 2000, ISBN 0443061866 (International student ed.).
4. Wing E, Schiffman F. (Ed) Cecil essentials of medicine 10th ed. (2021), Saunders/Elsevier, 2021, ISBN 9780323722711
5. Jameson JL, Fauci AS, Kasper D L, et al. Harrison’s principles of internal medicine. 20th Edition, volume 1,2. McGraw Hill Education, 2018, ISBN 978-1-259-64403-0

6. Oxford Handbook of Clinical Medicine. Collegium of authors. Oxford University Press 2017, ISBN 9780199689903.

### **Distribution of groups for practical training on the departments and for state exams**

<b>Group</b>	<b>Parent Dept.</b>	<b>Term of MH practical training</b>	<b>Dept. for state exam</b>
<b>Ba1</b>	I.IK	4.10.-8.10.2021	<b>StE I.IK</b>
<b>Ba2</b>	II.IK	11.10.-15.10.2021	<b>StE II.IK</b>
<b>Ba3</b>	III.IK	18.10.-22.10.2021	<b>StE III.IK</b>
<b>BaP</b>	Pulm	25.10.-29.10.2021	<b>StE II.IK</b>
<b>BaH</b>	HOK	25.10.-29.10.2021	<b>StE I.IK</b>

I.IK – Department of Internal Medicine I  
 II.IK – Department of Internal Medicine II  
 III.IK – Department of Internal Medicine III  
 HOK – Department of Hemato-Oncology  
 Pulm – Department of Pulmonary Diseases and Tuberculosis  
 MH – Military Hospital Olomouc

StE – State Exams

*Note: The practical part of the state exam will be held the day before the theoretical part of state exam.*

Internal medicine practical training IN0/VA041 - 6th year,  
academic year 2021/2022

Name: \_\_\_\_\_ Ident. number: \_\_\_\_\_

FN Olomouc Dept

**1. week**

Date	Stamp and signature

**2. week**

Date	Stamp and signature

**3. week**

Date	Stamp and signature

**4. week**

Date	Stamp and signature

**5. week**

Date	Stamp and signature

**6. week**

Date	Stamp and signature

**7. week**

Date	Stamp and signature

**Military Hospital**

Date	Stamp and signature

**Verbal evaluation:**

# **Questions for State Rigorous Examination in Internal Medicine after the XI<sup>th</sup> and XII<sup>th</sup> Term for English-Speaking Students in the Academic Year 2021/2022 (fixed combinations)**

1. Circulatory arrest and cardiopulmonary resuscitation  
Hyperthyreosis  
Systemic lupus erythematosus and antiphospholipid syndrome  
Diff. dg. of hepatomegaly
2. Cardiogenic shock  
Chronic obstructive pulmonary disease  
Anemia of chronic diseases  
Diff. dg. of proteinuria
3. Acute heart failure  
Malnutrition, vitamins and trace elements deficiency disorders  
Myelodysplastic syndrome  
Diff. dg. of cough and haemoptysis
4. Chronic heart failure  
Cholecystolithiasis and choledocholithiasis, cholecystitis and cholangitis  
Iron deficiency anemia  
Examination methods in rheumatology
5. Cardiac pacing, implantable defibrillators  
Respiratory insufficiency, classification, diagnosis, therapy  
Small vessel vasculitis  
Diff. dg. of hematuria
6. Sick sinus syndrome; irritable carotid syndrome  
Anemia from lack of vitamin B12 and folic acid  
Hereditary kidney diseases (polycystic disease of autosomal dominant type, type IV collagen diseases, renal tubular acidosis)  
Examination methods in liver diseases
7. Atrioventricular blocks  
Viral lung infections; Bacterial pneumonia and lung abscess; Ventilator-associated pneumonia  
Esophageal motility disorders, esophagus diverticulum and inflammation of the esophagus, hiatal hernias  
Diff. dg. of joint pain and swelling
8. Supraventricular tachycardia (excluding atrial fibrillation and flutter, atrial tachycardia)  
Gastric dyspepsia, acute and chronic gastritis and gastropathy  
Disorders of acid-base balance and hydration, their treatment  
Examination methods in hematology

9. Ventricular arrhythmias  
Peptic ulcer disease of stomach and duodenum  
Diabetes insipidus  
Examination methods in nephrology
10. Syncope  
Diabetes mellitus (pathophysiology, diagnostics and classification)  
Soft tissue rheumatism  
Diff. dg. of splenomegaly
11. Essential hypertension  
Idiopathic proctocolitis, Crohn's disease and less common colitis  
Acute glomerulonephritis and rapidly progressive glomerulonephritis  
Diff. dg. disorders of consciousness
12. Secondary hypertension  
Hepatic failure (hepatic encephalopathy and hepatorenal syndrome)  
Parathyroid diseases  
Diff. dg. of dyspnea
13. Diseases of the venous system  
Portal hypertension and ascites  
Hemolytic anemia (hereditary and acquired hemolytic anemia)  
Examination methods in endocrinology
14. Atherosclerosis and its risk factors  
Stomach tumors  
Acute leukemia  
Tuberculosis; Non-tuberculous mycobacteriosis
15. Ischemic heart disease (etiology, pathogenesis, classification)  
Chronic hepatitis and hepatic granulomatous processes  
Kidneys and hypertension, vascular diseases of the kidneys  
Bronchological methods and interventional pneumology, imaging methods in pneumology
16. Atrial fibrillation and flutter, atrial tachycardia  
Bronchial asthma  
Disorders of electrolyte management and its treatment  
Diff. dg. of bleeding into the upper gastrointestinal tract
17. Acute myocardial infarction and its complications  
Rheumatoid arthritis and juvenile idiopathic arthritis  
Chronic myeloid leukemia  
Diff. dg. of jaundice
18. Therapy of myocardial infarction  
Tumors of the colon and the rectum  
Hodgkin's lymphoma

Diff. dg. of back pain

19. Congenital heart diseases in adults  
Malabsorption syndrome  
Systemic scleroderma and Sjögren's syndrome  
Diff. dg. of fever, fever of unknown origin
20. Mitral stenosis and mitral insufficiency  
Irritable bowel syndrome, colon diverticulosis and megacolon  
Ph-negative chronic myeloproliferative diseases  
Diff. dg. of increased inflammatory markers (CRP, FW, procalcitonin, IL-6)
21. Aortic stenosis and aortic regurgitation  
Metabolic bone diseases  
Chronic lymphocytic leukemia and hairy cell leukemia  
Diff. dg. of diarrhea
22. Endocarditis  
Disorder of purine metabolism, gout and other arthritis-induced crystals  
Urinary tract infections and acute interstitial nephritis (acute pyelonephritis)  
Diff. dg. of constipation
23. Myocarditis  
Acute pancreatitis  
Large vessels vasculitis  
Diff. dg. of edema
24. Cardiomyopathies  
Thrombophilias (congenital and acquired)  
Goiter and inflammation of the thyroid gland  
Diff. dg. of abdominal pain
25. Pericarditis  
Tumors of the liver, gallbladder and bile ducts  
Nephrotic syndrome  
Diff. dg. of obesity
26. Influenza, COVID-1 infection  
Therapy of diabetes mellitus  
Idiopathic myositis (dermatomyositis, polymyositis)  
Diff. dg. of polyglobulia
27. Pulmonary embolism and thromboembolic disease  
Chronic glomerulonephritis  
Multiple myeloma and monoclonal gammopathy of unclear significance  
Diff. dg. of weight loss
28. Pulmonary hypertension (primary, secondary, chronic cor pulmonale, chronicum)  
Acute viral hepatitis (A to E types and other viral infections)  
Bleeding from platelet reasons, microangiopathic syndromes

- Opportunistic lung infections in immune-compromised patients
29. Biological treatment in pneumology
    - AL amyloidosis
    - Secondary glomerulopathy (diabetic nephropathy, renal amyloidosis, renal involvement in systemic connective tissue diseases)
    - Anticoagulant therapy - basic principles, preparation for surgical procedures in patients on anticoagulant therapies
  
  30. Atherosclerotic peripheral arterial disease
    - Pathogenesis of jaundice and its clinical types
    - Spondyloarthritis (axial spondyloarthritis, psoriatic arthritis, reactive arthritis, enteropathic spondyloarthritis)
    - Diff. dg. of increased bleeding
  
  31. Tobacco smoking, risks, therapy, prevention
    - Chronic pancreatitis
    - Rheumatic fever
    - Principles of effective chemotherapy, risks of transfusion therapy
  
  32. Malignant tumors of the lungs and bronchi
    - Hepatic cirrhosis, including primary biliary cirrhosis
    - Hypopituitarism
    - Transfusion of blood and blood products, post-transfusion reactions
  
  33. Physical examination in cardiology
    - Bronchiectasis, cystic fibrosis
    - Acute complications of diabetes mellitus (diagnostics and therapy)
    - Extracorporeal hemodialysis, peritoneal dialysis, continual methods, hemoperfusion, plasmapheresis
  
  34. Idiopathic interstitial pneumonia; Hypersensitivity pneumonia; Systemic connective tissue disorders with lung involvement
    - Alcoholic hepatopathy (alcoholic steatosis, hepatitis and cirrhosis)
    - Acute kidney injury
    - Diff. dg. of chest pain
  
  35. Alveolar haemorrhage and rare infiltrative diseases; Eosinophilic lung disease; Lymphangioleiomyomatosis; Drug-induced lung involvement
    - Tumors of the pancreas
    - Febrile neutropenia, sepsis and septic shock in haemato-oncology patients
    - Non-invasive examination methods in cardiology
  
  36. Occupational lung diseases, environmental and external factors of lung disease
    - Chronic complications of diabetes mellitus
    - Tumors of the thyroid gland
    - Diff. dg. of ECG changes
  
  37. Diseases of the pleura and mediastinum - effusion; chylothorax, hemothorax, fibrothorax
    - Hyperlipoproteinemias and dyslipoproteinemias (diagnosis, classification and therapy)
    - Chronic tubulointerstitial nephritis and tubular disorders



- Diff. dg. of leukocytosis and leukopenia
38. Stable angina pectoris  
Pleural and mediastinal diseases - Pleural tumors; Mediastinal tumors and cysts;  
Pneumomediastinum and mediastinitis  
Metabolic syndrome  
Diff. dg. of anemias
  39. Pneumothorax - diagnosis and therapy  
Endocrine active tumors of the gastrointestinal tract  
Chronic kidney diseases and chronic renal failure  
Diff. dg. of cutaneous and mucosal manifestations of internal diseases
  40. Sleep-related breathing disorders  
Infectious arthritis  
Hypophyseal hyperfunction  
Diff. dg. of lower GI tract bleeding
  41. Therapy of respiratory failure  
Adrenal medullary diseases  
Renal transplantation  
Diff. dg. of swallowing disorders
  42. Inflammation of the lower respiratory tract (laryngitis, tracheitis, bronchitis, bronchiolitis) and bronchiectasis  
Primary and secondary immunodeficiency  
Adrenocortical hypofunction  
Examination methods of GI tract
  43. Diseases of aorta  
Lung transplantation  
Adrenocortical hyperfunction  
Examination methods of the gallbladder, the biliary tract and the pancreas
  44. Functional tests and exercise cardiopulmonary tests in pneumology  
Toxic and drug-induced liver damage, hemochromatosis, Wilson's disease, porphyria and liver disorders in pregnancy (including HELLP syndrome)  
Non-Hodgkin's lymphomas  
Diff. dg. of ocular changes in internal diseases
  45. Sarcoidosis  
Esophageal diseases  
Urolithiasis  
Diff.dg. of heart rhythm disorders
  46. Invasive and non-invasive lung ventilation  
Bleeding from the lack of plasma factors (congenital and acquired coagulopathies)  
Renal and urinary tract neoplasia  
Invasive examination methods in cardiology

47. Unstable angina pectoris

Hypothyreosis

Postcholecystectomy syndrome, – sphincter Oddi dysfunction and the biliary tract  
dysmotility

Diff. dg. of lymph nodes enlargement (lymphadenopathies)