



Course Catalogue

MEDICINE

University of Bonn



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Overview of eligible courses

Course Code	Subject / Title	ECTS credits	Clinical semester
401020101	Internal Medicine Lecture	3	3
401020301	Practical Internal Medicine Practical Seminar	6	3
401010301	Dermatology, Venereology Practical Lecture	5	3
401004301	Ophthalmology Practical Lecture	5	3
401016301	Otorhinolaryngology (ENT) Practical Lecture	5	3
401099404	Infectiology, Immunology Seminar	1	3
	Clinical-Pathological Conference (Special Pathology)	6	
401035401	Part I, II, III Seminar Part I Lecture Part I		3
401035403	Seminar Part II Lecture Part II		4
401035408	Seminar Part III Lecture Part III		5
401007101	Surgery Lecture	3	4
401007301	Practical Surgery Practical Seminar	6	4
401033301	Orthopaedics Practical Lecture	5	4
401043301	Urology Practical Lecture	5	4

401002301	Anaesthesiology Practical Lecture	5	4
401040401	Imaging Techniques, Radiotherapy and Radiation Protection Lecture Part I Seminar Lecture Part II	2	2 4 4
401002401	Emergency Medicine Seminar	1	4
401034501	Palliative Medicine Seminar Lecture	2	4
401002501	Pain Medicine Seminar Lecture	1	4
401031301	Neurology Practical Lecture Neurology Lecture Neurosurgery	5	5
401038301	Psychiatry and Psychotherapy Practical Lecture	5	5
401039202	Psychosomatics and Psychotherapy Seminar Lecture	4	5
401024401	Clinical Pharmacology/Pharmacotherapy Seminar	5	5
401041401	Forensic Medicine Seminar Forensic Medicine Lecture Forensic Medicine	2	5
401026402	Seminar Clinical Ethics	0,5	
401001402	Geriatric Medicine Seminar	1	5
401001403	Rehabilitation, Physical Therapy and Naturopathic Treatment Seminar	1	5
401005102	Clinical Environmental Medicine Seminar	1	5
401014102	Gynaecology and Obstetrics Lecture	3	5

401014301	Practical Gynaecology and Obstetrics Practical Seminar	3	6
401023101	Paediatrics Lecture	3	6
401023301	Practical Paediatrics Practical Seminar	3	6
401001301	Practical General Medicine Practical	7	6
	Occupational Medicine, Social Medicine		6
401005501	Seminar Occupational Medicine Lecture Occupational Medicine	1,5	
401018402	Seminar Social Medicine Lecture Social Medicine	1,5	
401018403	Health Economy, Health Care System and Public Health Seminar	1	6
401001404	Prevention, Health Promotion Seminar	1	6
401101810	Clinical training in a voluntary specialisation module Practical	4	6

GERMAN GRADING SCALE/ECTS GRADING SCALE

German Grading Scale	Definition	ECTS Grading Scale	Percentage of successful students normally achieving this grade	Definition
1	Excellent Outstanding performance with only minor errors	А	10	Excellent Excellent performance with only minor errors
2	Good Above the average standard but with some errors	В	25	Very Good Above the average standard but with some minor errors
3	Satisfactory Generally sound work with a number of notable errors	С	30	Good Generally sound work with a number of notable errors
4	Sufficient Performance meets the minimum criteria	D	25	Satisfactory Fair but with significant shortcomings
-		E	10	Sufficient Performance meets the minimum criteria
5	Fail Some more work required before the credit can be awarded	FX	-	Fail Some more work required before the credit can be awarded
	Fail Considerable further work is required	F	-	Fail Considerable further work is required

The minimum passing grade is 4.

Students who are not present at the examination receive the grade 5 (FX, fail) and no credits will be awarded.

Title / Course Code	Subject / Teaching Methodology	Hours / semester	ECTS credits	Content / Assessment
401020101 Innere Medizin Vorlesung	Internal Medicine Lecture	112	3	Content: Pulmonary disease, cardiology, angiology, hypertension, infectious disease, rheumatology, immunology, nephrology, gastroenterology, haematology, oncology, metabolic disorders, hepatology, endocrinology, psychosomatic diseases
				Diagnosis and therapy in internal medicine with special emphasis on physical examination, interpretation of laboratory data and imaging techniques Identification and evaluation of diagnostic work-up algorithems for major lead symptoms (i.e. fever of unknown origin, anemia, diarrhea, enlarged lymph node, tumor in the liver, icterus, coma etc.)
				Work-up of patient case histories and development of diagnosis and therapy algorithm
				Assessment: written examination
				Knowledge and skills achieved: To evaluate a patient presenting with disease symptoms and to perform differential diagnosis and develop diagnostic and therapeutic decision algorithms.
401020301 Blockpraktikum Innere Medizin	Practical Internal Medicine		6	Content: Pulmonary disease, cardiology, angiology, hypertension, infectious disease, rheumatology, immunology, nephrology, gastroenterology, haematology, oncology, metabolic disorders, hepatology, endocrinology, psychosomatic diseases
Praktikum Seminar	Practical Seminar	56 14		Diagnosis and therapy in internal medicine with special emphasis on physical examination, interpretation of laboratory data and imaging techniques Identification and evaluation of diagnostic work-up algorithems for major lead symptoms (i.e. fever of unknown origin, anemia, diarrhea, enlarged lymph node, tumor in the liver, icterus, coma etc.)
				Work-up of patient case histories and development of diagnosis and therapy algorithm
				Assessment: written examination
				Knowledge and skills achieved: To evaluate a patient presenting with disease symptoms and to perform differential diagnosis and develop diagnostic and therapeutic decision algorithms.
401010301 Dermatologie, Venerologie	Dermatology, Venereology		5	Content : Diagnosis and therapy of dermatological diseases referring to macro morphological and micro morphological analysis including the presentation of patients
- 1.11	.			Assessment: written examination
Praktikum Vorlesung	Practical Lecture	56 28		Knowledge and skills achieved : Compact introduction to the most important aspects of dermatology, Provides a basic understanding of dermatological diseases.

401004301 Augenheilkunde	Ophthalmology		5	Content : examination of patients with various eye problems; exposure to ophthalmic surgery; lectures on general ophthalmology with focus on pathogenesis, diagnosis and treatment of certain diseases:
Praktikum	Practical	28		Ophthalmic emergencies: to recognise the following entities and to react appropriately: acid and alkali burns; penetrating/perforating trauma; central retinal artery occlusion / central retinal occlusion; acute
Vorlesung	Lecture	14		angle closure glaucoma. Systemic diseases and Ophthalmology: to know which patients to send for an ophthalmologic check-up: Diabetes; vascular diseases / hypertension; headache (various ophthalmologic causes); papilledema. Pathophysiology and treatment of major eye diseases: lidproblems; corneal disease; cataract; glaucoma; retinal detachment; macular degeneration; strabismus; amblyopia. Most commonly used surgical techniques: cataract surgery; glaucoma surgery; retinal surgery; lid surgery. Transfer of pathophysiology of general disease onto ocular disease: intraocular inflammation and sequelae; vascular occlusion and sequelae. Basic concepts and fundamental terms in Ophthalmology: lid tumours; uveal melanoma; retinoblastoma
				Knowledge and skills achieved: ability to react appropriately when patients complain about eye problems or suffer from ocular trauma / diseases; basic knowledge in diagnostic and treatment of major eye diseases
401016301 Hals,- Nasen-, Ohrenheilkunde	Otorhinolaryngology (ENT)		5	Content : Case related demonstration of diseases in otorhinolaryngology including modern aspects of diagnosis and therapy. The student is shown surgical procedures as well as functional diagnostic tools especially audiometry, neurootology, vestibular function and sonography. The accompanying lecture deals with basic knowledge, needed in the practical course.
Praktikum	Practical	28		Assessment written exemination
Vorlesung	Lecture	14		Assessment: written examination
				Knowledge and skills achieved: Knowledge of otorhinolaryngological diseases and therapy. Special otorhinolaryngological methods of investigation as for example endoscopy, otoscopy and laryngoscopy.
401099404 Infektiologie,	Infectiology, Immunology		1	Content:
Immunologie				Assessment: written examination
Seminar	Seminar	14		Knowledge and skills achieved:
401035401 Klinisch-	Clinical-pathological		6	Content: Pathology of the clinical subjects included in the 3rd semester
pathologische Konferenz – Teil I	conference - Part I		(in total, if all 3 parts	Assessment: written examination
16111			are successfully	Knowledge and skills achieved:
Seminar	Seminar	9	completed)	
Vorlesung	Lecture	14		

Title /	Subject /	Hours per	ECTS	Content /
Course Code	Teaching Methodology	Semester	Credits	Assessment
401007101 Chirurgie	Surgery		3	Content : Lectures with systematic presentation of the entire field of surgery including abdominal, thoracic, vascular, transplant, cardiac, oral and maxillofacial surgery and traumatology
Vorlesung	Lecture	56		Assessment: Interdisciplinary oral examination (together with orthopaedics, urology and anaesthesiology)
				Knowledge and skills achieved : Diagnosis and therapy of all important surgical diseases with special emphasis on physical examination, interpretation of laboratory data and imaging techniques
401007301	Practical Surgery		6	Content:
Blockpraktikum Chirurgie				Assessment: written examination
Praktikum Seminar	Practical Seminar	70 14		Knowledge and skills achieved : Diagnosis and therapy of all important surgical diseases with special emphasis on physical examination, interpretation of laboratory data and imaging techniques
401033301 Orthopädie	Orthopaedics		5	Content: Diagnosis and therapy of orthopaedic diseases
				Assessment: Interdisciplinary oral examination (together with orthopaedics, urology and anaesthesiology)
Praktikum	Practical	28		Manufadas and skills sakinusd. Daris minsialas and knapyladas of orthographic diseases
Vorlesung	Lecture	28		Knowledge and skills achieved: Basic principles and knowledge of orthopaedic diseases
401043301 Urologie	Urology		5	In preparation for the practical, lectures on the following topics will be held and must be attended to participate in practical: introduction; bladder cancer; kidney tumours; urogenital abnormalities, renal transplantation; neurogenic bladder disorder; urological emergencies; testicular cancer; urolithiasis; paediatric urology, urinary tract infections;
Praktikum	Practical	28		benign prostatic hyperplasia; erectile dysfunction; gynaecological urology; prostate cancer
Vorlesung	Lecture	28		 Content: The practical begins with participation during morning rounds and the clinical conference. Afterwards, the students are assigned to the following 3 rotations: In-patient-care: Introduction to general basic skills: history taking, physical examinations; practical skills (venous blood sampling, placement of iv-lines, injections, application and change of wound dressings, gastric tubes etc); participation in giving preoperative informed consent; introduction to urological skills: clinical techniques of examination; placement and care of urinary catheters; sampling and dipstick testing of urine, urine cultures Operating room: patient preparation and positioning; surgical scrubbing; assistance in urological procedures; hospitation in endourological procedures with video transmission; surgical knotting techniques; introduction to urologic surgical appliances, catheters and instruments Amulatory: Hospitation in urological units: extracorporeal shockwave lithotrypsy; Uroflowmetry, Urodynamics; Endoscopy; Intervention and minimal-invasive procedures; radiological examinations; Hospitation and

Assessment: Interdisciplinary oral examination (together with orthopaedics, urology and anaesthesiology) Knowledge and skills achieved: Basic skills and knowledge in general urology

paediatrics, Andrology, Infertility, Incontinence)

performance of ultrasound examinations; Voluntary participation in urological consultation hours (Urological

401002301 Anästhesiologie Praktikum Vorlesung Vorlesung	Anaesthesiology Practical Lecture Anaesthesiology Lecture Intensive Medicine	56 14 14	5	 Content: The principles of Anaesthesiology and intensive care. General anaesthesia: intravenous anaesthetics, volatile anaesthetics, muscle relaxants, opioids, intubation, crush-intubation Regional anaesthesia: plexus axillaris, spinal epidural anaesthesia, peripheral blocks, postoperative pain therapy Intensive care: ventilation, fluid therapy, antibiotics, sepsis, shock Assessment: Interdisciplinary oral examination (together with orthopaedics, urology and anaesthesiology) Knowledge and skills achieved:
401002401 Notfallmedizin	Emergency Medicine		1	Content:
Seminar Vorlesung	Seminar Lecture	14 14		Assessment: OSCE (objective structured clinical examination) Knowledge and skills achieved:
401034501 Palliativmedizin	Palliative Medicine		2	Content: Assessment: written examination
Seminar Vorlesung	Seminar Lecture	14 14		Knowledge and skills achieved:
401002501	Pain Medicine		2	Content:
Schmerzmedizin				Assessment: written examination
Seminar Vorlesung	Seminar Lecture	7 14		Knowledge and skills achieved:
401040401 Bildgebende Verfahren, Strahlenbehandlung und Strahlenschutz	Imaging techniques, radiotherapy and radiation protection		2	Content: The physics of radiation and its effects, radiationbiology, dosimetry, practical safety measures, techniques of X-ray examinations, interpretation of X-ray images of the thoracic and abdominal organs and the musculo-skeletal system, contrast media, nuclear medicine and the basic principles of modern radiotherapy, Imaging techniques and diagnostic methods in nuclear medicine, pharmacology of radioisotopes, principles of physiological concentration of radioisotopes
Vorlesung Seminar Vorlesung	Lecture part I Seminar Lecture part II	7 14 14		Assessment: written examination part I & II Knowledge and skills achieved: Knowledge about the physics of x-rays, knowledge about the physics of magnetic resonance imaging, knowledge about the clinical applications of plain films, computed tomograpy, ultrasound and magnetic resonance imaging, knowledge about basic principles and side effects of contrast media, interpretation of X-ray images, magnetic resonance images and computed tomography images of the thoracic and abdominal organs, knowledge about the typical imaging features of common diseases of the abdomem, chest and brain

401035403 Klinisch-	Clinical-pathological		6	Content:
pathologische Konfe Teil II	renz - conference - Part II		(in total, if all 3 parts are successfully	Assessment: written examination
		q	completed)	Knowledge and skills achieved:
Seminar	Seminar	,		
Vorlesung	Lecture	14		

Title / ECTS Course Code	Subject / Teaching Methodology	Hours / semester	ECTS credits	Content / Assessment
401031301 Neurologie	Neurology		5	Content: Neurology (incl. Neurosurgery) Headache, cerebrovascular diseases, disorders of the peripheral and cranial nerves, muscle disorders, infections of the central nervous system, epilepsy, sleep disorders, vertigo, movement disorders, ataxias, inflammatory disorders of the central and peripheral nervous system
Vorlesung Vorlesung Praktikum	Lecture Neurology Lecture Neurosurgery Practical	28 14 42		Content: Neurosurgery Spontaneous intracerebral haemorrhage; aneurysmal subarachnoid haemorrhage; cerebral arteriovenous malformations; head injury and intracranial pressure; degenerative, tumorous, infectious, and traumatic disorders of the spine; benign and malignant tumours of the brain; hydrocephalus; epilepsy surgery; paediatric neurosurgery; pain and peripheral nerve surgery Assessment: written examination Knowledge and skills achieved: The student will learn to perfom a detailed neurological examination: Upon completion he/she will understand the anatomy, pathophysiology, and the principles of the treatment of neurological disorders.
401038301 Psychiatrie und Psychotherapie	Psychiatry and Psychotherapy		5	Content: : Systematic assessment of psychopathological phenomena and classification into psychiatric disorders, diagnostic methods, prognosis, therapeutic strategies, primary and secondary prevention and rehabilitation Group seminars organized according to principles of Problem Based Learning (PBL) with several teaching modules offering actual patient exposure. Introductory concept lecture
Praktikum	Practical	42		
Vorlesung	Lecture	28		Assessment: written examination with MC questions, oral re-examination in case of failure)
				Knowledge and skills achieved : : Basic knowledge about pathophysiology, diagnosis, course and treatment of common psychiatric disorders (depression, schiziphrenia, anxiety, dementia and addiction). Basic level skill in psychiatric interviewing techniques.
401039202 Psychosomatik und Psychotherapie	Psychosomatics and Psychotherapie		4	Content: Covered topics are the biopsychosocial model, diagnostic classification systems, diagnostic criteria for specific mental/psychosomatic disorders, psychotherapy and integrative psychosomatic treatment strategies. The practical training focuses on diagnostic and interview skills.
Seminar	Seminar	42		Assessment: written examination
Vorlesung	Lecture	14		Knowledge and skills achieved : Recognising symptoms of psychosomatic disorders, conducting a clinical interview under a psychodynamic perspective, formulating a descriptive diagnosis in terms of ICD 10 / DSM IV

401024401 Klinische Pharmakologie/Pharmako therapie	Clinical Pharmoacotherapy/Phar macotherapy		5
Seminar	Seminar	28	

Content: Clinical Pharmacology/Pharmacotherapy

- 1. Pharmaceutical development/clinical examination/acquisition and evaluation of published pharmaceutical data: Preclinical examination, clinical examination (Ethics Committee, legal aspects), admission procedures, biometry, reliable sources of information, search strategies, evaluation of studies, practical examples.
- 2. Pharmacokinetics: Repetition of basic pharmacokinetic terms, summary of pharmacokinetics in risk populations, therapeutic drug monitoring, evaluation, dose calculation, practising dose calculation with clinical examples.
- 3. Pharmacogenetics: Polymorphisms (CYP450, transferases, G6PDH), clinical impact (dose relevance, efficacy, safety), diagnostics, dose individualization, clinical examples.
- 4. Adverse pharmaceutical effects I: Frequency, classification, epidemiological and economic relevance, evaluation of causal interrelation, post marketing surveillance, clinical examples.
- 5. Adverse pharmaceutical effects II: Decision finding in suspected adverse events, evaluation incl. single-case-randomized-trial-design, registration, successive procedures, local pharmaceutical committies, clinical examples.
- 6. Drug interactions and incompatibilities: Frequency, classification, epidemiological and economic relevance, mechanisms (induction, inhibition, complexing, antagonism), avoidance and considerations before prescription, clinical examples.
- 7. Intoxication and withdrawal syndromes: Typical substance classes, detection, symptoms, emergency measures, prevention, clinical examples.
- 8. Pharmaceutical therapy in risk populations I: Restricted kidney function and kidney compensation therapies (diagnostics, evaluation, procedures, practical exercises in case studies).
- 9. Pharmaceutical therapy in risk populations II: Kidney disorders (diagnostics, evaluation, procedures, practical exercises in case studies).
- 10. Pharmaceutical therapy in risk populations III: Geriatric patients and children (special features, evaluation, procedures, practical exercises in case studies).
- 11. Pharmaceutical therapy in risk populations IV: Pregnancy and breastfeeding (special features, evaluation, procedures, practical exercises in case studies).
- 12. Prescription of drugs: Patient education and instruction, placebo effect, prescription, opioids, basic legal principals, off-label-use, practical exercises.
- 13. Difficulties in cases of non-efficiency: Detection, monitoring, non-compliance, non-response, economic relevance, clinical examples.
- 14. Pharmaco-Economy: Pharmaco-economical problems (cost pool, cash flow, pharmaceutical market, pharmaceutical industry, political institutions and instruments), methodology of pharmaco-economical studies (design, outcome parameters, data origin, cost-effectiveness, cost-minimization, cost-utility, cost-benefit, decision models), discussion of chosen subjects (rheumatoid arthritis, HIV, malaria, vaccination/prevention, "lifestyle drugs)

Pharmaco-Therapy with case presentation:

- 1. Pharmaco-therapy of arterial hypertension.
- 2. Pharmaco-therapy of cardiac insufficiency.
- 3. Pharmaco-therapy of coronary heart disease/myocardial infarct and therapy with coagulation and aggregation inhibiting substances.
- 4. Pharmaco-therapy of the respiratory tract diseases (asthma, COPD).
- 5. Pharmaco-therapy of gastrointestinal diseases.
- 6. Pharmaco-therapy of Diabetes mellitus, dyslipidemia and other metabolic disorders.
- 7. Pharmaco-therapy of thyroid diseases, osteoporosis and therapy with sexual hormones.
- 8. Pharmaco-therapy of bacterial infections.
- 9. Pharmaco-therapy of viral, mycotic and parasitic infections.

- 10. Pharmaco-therapy of psychiatric emergency situations and depressions, M. Parkinson, seizures, sleep disorders and migraine.
- 11. Pharmacotherapy of acute and chronic pain.
- 12. Pharmaco-therapy of rheumatic diseases / immunsuppression.
- 13. Pharmaco-therapy of neoplasia (including supportive measures) and disorders of the water and electrolyte metabolism.
- 14. Pharmaco-therapy with controversial drugs or drugs with restricted prescription recommendations (e.g. anabolic steroids, antidysmenorrhoics, carminativa, intestinal flora drugs, enzymes, immunstimulants, menopause drugs, therapeutica of the mouth and throat, venous drugs, vitamins, etc.), wound healing drugs and phytopharmaca.

Assessment: written examination

401001402 Medizin des Alterns und des alten	Geriatric Medicine		1	Content:
Menschen				Assessment: written examination
				Knowledge and skills achieved:
Seminar	Seminar	14		
401001403 Rehabilitation,	Rehabilitation, physical		1	Content:
Physikalische Medizin und Naturheilverfahren	and naturopathic treatment			Assessment: written examination
ivaturnenverranren	treatment			Knowledge and skills achieved:
Seminar	Seminar	14		
401005102 Klinische	Clinical environmental		1	Content:
Umweltmedizin	medicine			Assessment: written examination
Seminar	Seminar	14		Knowledge and skills achieved:
401041401 Rechtsmedizin	Forensic Medicine		2	Content: Forensic thanatology, psychopathology, pathology, traumatology, toxicology, criminology, medical jurisprudence
401041401 Seminar	Seminar	14	1,5	Assessment: written examination
Vorlesung	Lecture	14		Knowledge and skills achieved: external examination, certification of the cause of death, description and
401026402 Klinische Ethik Seminar	Clinical Ethics Seminar	7	0,5	certification of body harm and sexual environment

401035408 Klinisch-Clinical-pathological 6 Content: (in total, if all pathologische Konferenz conference (special 3 parts are Assessment: written examination Teil III pathology) - Part III successfully completed) Knowledge and skills achieved: Seminar 9 Seminar Vorlesung Lecture 14

Title / ECTS Course Code	Subject / Teaching Methodology	Hours per Semester	ECTS Credits	Content / Assessment
401014102 Frauenheilkunde und Geburtshilfe	Gyneacology and Obstetrics		3	Content: Assessment: written examination
Vorlesung	Lecture	28		Knowledge and skills achieved:
401014301 Blockpraktikum Frauenheilkunde und Geburtshilfe	Practical Gyneacology and Obstetrics		3	Content: Assessment: OSCE (objective structured clinical examination)
Praktikum	Practical	42		Knowledge and skills achieved:
Seminar	Seminar	7		
401023101 Kinderheilkunde	Paediatrics		3	Content:
Vorlesung	Lecture	28		Assessment: written examination Knowledge and skills achieved:
401023301 Blockpraktikum	Practical Paediatrics		3	Content:
Kinderheilkunde				Assessment: OSCE (objective structured clinical examination)
Praktikum	Practical	42		Knowledge and skills achieved
Seminar	Seminar	7		
401001404 Prävention, Gesundheitsförderung	Prevention, Health Promotion		1	Content: Assessment: written examination
Seminar	Seminar	7		Knowledge and skills achieved:

401001301 Blockpraktikum Allgemeinmedizin	Practical General Medicine		7	Content: Assessment: oral examination
_				Knowledge and skills achieved:
Praktikum	Practical	98		Kilowieuge aliu skilis acilieveu.
Seminar	Seminar	14		
Arbeitsmedizin, Sozialmedizin	Occupational Medicine, Social		3	Content:
	Medicine			Assessment: written examination
401005501 Arbeitsmedizin	Occupational Medicine		1,5	Knowledge and skills achieved:
Seminar	Seminar	14		
Vorlesung	Lecture	7		
401018402 Sozialmedizin	Social Medicine		1,5	
Seminar	Seminar	14		
Vorlesung	Lecture	7		
401101810 Wahlfach	Elective - Clinical training in a specialisation module		4	Content: https://www.medfak.uni-bonn.de/de/lehre-studium/studiengaenge/humanmedizin/klinik/wahlfach-ii-1
	specialisation module			Assessment: written or oral examination
Praktikum	Practical (only one elective can be taken)	56		Knowledge and skills achieved: