

UNIVERSITY OF ZAGREB SCHOOL OF MEDICINE

Plan of the course

Neurology

Academic year **2016/2017**

doc. dr. sc. Željka Petelin Gadže

I. COURSE AIMS

- To learn the meaningful approach to the case history, neurological status and clinical way of making a decision in neurology
- To encourage the independent gaining of knowledge
- To learn how to present patients verbally
- To prepare concise and clear neurological medical findings
- To learn how to carry out the neurological status and how to differentiate normal findings and neurological disturbances
- To learn how to localise the site of lesion in the central nervous system which could cause the patient's symptoms and signs
- To learn how to formulate the differential diagnosis
- To learn how to order and interpret findings of usual examinations which are being used in diagnostics of neurological diseases
- To understand the principles of treatment of more frequent neurological diseases
- To learn how to perform lumbar puncture

II. COURSE STRUCTURE

Course hours:

Lectures: 17

Seminar: 36

Special clinical practicals: 39

Total hours: 92

Lectures (L): 17 hours

Seminars (S): 36 hours

Practicals (P): 39 hours

Total: 92 hours

III. PLAN OF THE COURSE AND COURSE SCHEDULE

BLOCKS OF THE COURSE

Number of blocks: 1

Block number	Start	End
1.	3.10.2016	21.10.2016

BLOCKS OF THE COURSE

Number of blocks: 1

Block number	Start	End
1.	3.10.2016	21.10.2016

BLOCKS OF THE COURSE SCHEME

Block 1

Date	Time	Group	Course hours type	Theme	Teaching staff
Monday 3.10.2016.	08:30-09:15; KBC, edukacijski centar S. Dogan	All	Lectures	Introduction	izv. prof. dr. sc. Zdravka Poljaković
	09:15-10:45; KBC, edukacijski centar S. Dogan	All	Lectures	Functional neuroanatomy	prof. dr. sc. Goran Šimić
	11:00-12:30; KBC, edukacijski centar S. Dogan	All	Seminar	Functional neuroanatomy	prof. dr. sc. Goran Šimić
	12:45-13:30; KBC, edukacijski centar S. Dogan	All	Seminar	Functional neuroanatomy	prof. dr. sc. Goran Šimić
Tuesday 4.10.2016.	08:30-09:15; KBC, edukacijski centar S. Dogan	All	Seminar	Case history of neurological patient	izv. prof. dr. sc. Damir Petavić
	09:15-10:00; KBC, edukacijski centar S. Dogan	All	Seminar	Cranial nerves	izv. prof. dr. sc. Ervina Bilić
	10:15-11:00; KBC, edukacijski centar S. Dogan	All	Seminar	Motor system	izv. prof. dr. sc. Srđana Telarović
	11:00-11:45; KBC, edukacijski centar S. Dogan	All	Seminar	Sensory system	doc. dr. sc. Marina Boban
	12:00-12:45; KBC, edukacijski centar S. Dogan	All	Seminar	Consciousness and disturbances of consciousness	doc. dr. sc. Branko Malojčić
Wednesday 5.10.2016.	08:30-10:00; KBC, Klinika za neurologiju, odjeli		Special clinical practicals	Practicals	izv. prof. dr. sc. Fran Borovečki, Barbara Barun, dr. med., izv. prof. dr. sc. Srđana Telarović, izv. prof. dr. sc. Zdravka Poljaković, prof. dr. sc. Maja Relja, izv. prof. dr. sc. Damir Petavić, Ivana Zadro, dr. med., doc. dr. sc. Darija Mahović Lakušić, doc. dr. sc. Mario Habek, izv. prof. dr. sc. Ervina Bilić, doc. dr. sc. Branko Malojčić, Petra Nimac Kozina

Date	Time	Group	Course hours type	Theme	Teaching staff
	10:15-11:45; KBC, Klinika za neurologiju, odjeli		Special clinical practicals	Practicals	izv. prof. dr. sc. Zdravka Poljaković, prof. dr. sc. Maja Relja, doc. dr. sc. Darija Mahović Lakušić, doc. dr. sc. Marina Boban, doc. dr. sc. Mario Habek, izv. prof. dr. sc. Ervina Bilić, izv. prof. dr. sc. Srđana Telarović, Ivana Zadro, dr. med., Barbara Barun, dr. med., Antonela Bazina, Petra Nimac Kozina
	12:00-13:30; KBC, Klinika za neurologiju, odjeli		Special clinical practicals	Practicals	Ivana Zadro, dr. med., Tereza Gabelić, Barbara Barun, dr. med., Branimir Ivan Šepec, Antonela Bazina, Vladimir Miletić, Petra Nimac Kozina, Josip Ljevak, Ivan Adamec, Helena Šarac, dr. med., Sibila Nanković, dr. med.
Thursday 6.10.2016.	08:30-10:00; KBC, edukacijski centar S. Dogan	All	Seminar	Cerebral lobe syndromes	doc. dr. sc. Branko Malojčić
	10:15-11:45; KBC, edukacijski centar S. Dogan	All	Seminar	Examination of neurological patient I	doc. dr. sc. Željka Petelin Gadže
	12:00-12:45; KBC, edukacijski centar S. Dogan	All	Seminar	Examination of neurological patient II	izv. prof. dr. sc. Srđana Telarović
	12:45-14:15; KBC, Klinika za neurologiju, odjeli		Special clinical practicals	Practicals	doc. dr. sc. Nataša Klepac, Ivana Zadro, dr. med., Barbara Barun, dr. med., Antonela Bazina, Katarina Blažina, Branimir Ivan Šepec, Tereza Gabelić, Josip Ljevak, Ivan Adamec, Helena Šarac, dr. med., Vladimir Miletić
Friday 7.10.2016.	08:30-09:15; KBC, edukacijski centar S. Dogan	All	Lectures	Epilepsy and paroxysmal consciousness disorders	doc. dr. sc. Željka Petelin Gadže
	09:15-10:00; KBC, edukacijski centar S. Dogan	All	Lectures	Epilepsy and paroxysmal consciousness disorders	doc. dr. sc. Željka Petelin Gadže

Date	Time	Group	Course hours type	Theme	Teaching staff
	10:15-11:45; KBC, edukacijski centar S. Dogan	All	Seminar	Epilepsy and paroxysmal consciousness disorders	doc. dr. sc. Željka Petelin Gadže
	12:00-12:45; KBC, Klinika za neurologiju, odjeli		Special clinical practicals	EEG Practicals	izv. prof. dr. sc. Srđana Telarović, doc. dr. sc. Željka Petelin Gadže
	13:00-13:45; KBC, edukacijski centar S. Dogan	All	Seminar	Clinic of brain tumours	izv. prof. dr. sc. Damir Petravić
Monday 10.10.2016.	08:30-10:00; KBC, Klinika za neurologiju, odjeli		Special clinical practicals	Practicals	doc. dr. sc. Željka Petelin Gadže, izv. prof. dr. sc. Zdravka Poljaković, izv. prof. dr. sc. Damir Petravić, izv. prof. dr. sc. Ervina Bilić, doc. dr. sc. Marina Boban, izv. prof. dr. sc. Srđana Telarović, doc. dr. sc. Darija Mahović Lakušić, doc. dr. sc. Nataša Klepac, doc. dr. sc. Mario Habek, Ivana Zadro, dr. med., Barbara Barun, dr. med.
	10:15-11:45; KBC, edukacijski centar S. Dogan	All	Lectures	Cerebrovascular diseases	izv. prof. dr. sc. Zdravka Poljaković
	12:00-13:30; KBC, edukacijski centar S. Dogan	All	Seminar	Cerebrovascular diseases	doc. dr. sc. Branko Malojčić
	13:30-14:15; KBC, Klinika za neurologiju, odjeli		Special clinical practicals	Ultrasound of the head and neck blood vessels	doc. dr. sc. Nataša Klepac, doc. dr. sc. Branko Malojčić
Tuesday 11.10.2016.	08:30-10:00; KBC, edukacijski centar J. Sokolić	All	Seminar	Diagnosis of cerebrospinal fluid	doc. dr. sc. Željka Petelin Gadže
	10:15-11:45; KBC, Klinika za neurologiju, odjeli		Special clinical practicals	Practicals	doc. dr. sc. Marina Boban, Ivana Zadro, dr. med., prof. dr. sc. Maja Relja, izv. prof. dr. sc. Srđana Telarović, izv. prof. dr. sc. Ervina Bilić, doc. dr. sc. Željka Petelin Gadže, izv. prof. dr. sc. Damir Petravić, doc. dr. sc. Branko Malojčić, doc. dr. sc. Darija Mahović Lakušić, doc. dr. sc. Mario Habek, Antonela Bazina

Date	Time	Group	Course hours type	Theme	Teaching staff
	12:00-13:30; KBC, Klinika za neurologiju, odjeli		Special clinical practicals	Practicals	izv. prof. dr. sc. Zdravka Poljaković, prof. dr. sc. Maja Relja, izv. prof. dr. sc. Damir Petravić, doc. dr. sc. Željka Petelin Gadže, izv. prof. dr. sc. Srđana Telarović, izv. prof. dr. sc. Ervina Bilić, doc. dr. sc. Mario Habek, doc. dr. sc. Darija Mahović Lakušić, doc. dr. sc. Marina Boban, Barbara Barun, dr. med., Antonela Bazina
Wednesday 12.10.2016.	08:30-10:00; KBC, edukacijski centar S. Dogan	All	Lectures	Demyelinating diseases	Ivana Zadro, dr. med.
	10:15-11:45; KBC, edukacijski centar S. Dogan	All	Seminar	Clinic of demyelinating diseases	doc. dr. sc. Mario Habek
	12:00-12:45; KBC, Klinika za neurologiju, odjeli		Special clinical practicals	Evoked potentials - Practicals	doc. dr. sc. Branko Malojčić, Magdalena Krbot Skorić, Tereza Gabelić
	12:45-14:15; KBC, Klinika za neurologiju, odjeli		Special clinical practicals	Practicals	Ivana Zadro, dr. med., Barbara Barun, dr. med., doc. dr. sc. Nataša Klepac, Antonela Bazina, Katarina Starčević, Branimir Ivan Šepec, Josip Ljevak, Tereza Gabelić, Helena Šarac, dr. med., Vladimir Miletić, Ivan Adamec
Thursday 13.10.2016.	08:30-10:00; KBC, Klinika za neurologiju, odjeli		Special clinical practicals	Practicals	Tereza Gabelić, prof. dr. sc. Maja Relja, izv. prof. dr. sc. Zdravka Poljaković, izv. prof. dr. sc. Srđana Telarović, doc. dr. sc. Željka Petelin Gadže, doc. dr. sc. Marina Boban, doc. dr. sc. Darija Mahović Lakušić, doc. dr. sc. Nataša Klepac, doc. dr. sc. Mario Habek, izv. prof. dr. sc. Ervina Bilić, doc. dr. sc. Branko Malojčić

Date	Time	Group	Course hours type	Theme	Teaching staff
	10:15-11:45; KBC, Klinika za neurologiju, odjeli		Special clinical practicals	Practicals	Ivan Adamec, prof. dr. sc. Maja Relja, izv. prof. dr. sc. Zdravka Poljaković, izv. prof. dr. sc. Damir Petravić, doc. dr. sc. Željka Petelin Gadže, doc. dr. sc. Marina Boban, doc. dr. sc. Darija Mahović Lakušić, doc. dr. sc. Nataša Klepac, doc. dr. sc. Mario Habek, izv. prof. dr. sc. Ervina Bilić, Barbara Barun, dr. med., Helena Šarac, dr. med.
	12:00-13:30; KBC, edukacijski centar S. Dogan	All	Seminar	Emergency neurology	izv. prof. dr. sc. Zdravka Poljaković
Friday 14.10.2016.	08:30-10:00; KBC, edukacijski centar S. Dogan	All	Lectures	Dementia	doc. dr. sc. Nataša Klepac
	10:15-11:45; KBC, Klinika za neurologiju, odjeli		Special clinical practicals	Practicals	Barbara Barun, dr. med., Vladimir Miletić, Branimir Ivan Šepec, Tereza Gabelić, doc. dr. sc. Nataša Klepac, Helena Šarac, dr. med., Petra Nimac Kozina, Josip Ljevak, Ivana Zadro, dr. med., Antonela Bazina, Sibila Nanković, dr. med.
	12:00-13:30; KBC, Klinika za neurologiju, odjeli		Special clinical practicals	Practicals	Ivana Zadro, dr. med., Barbara Barun, dr. med., Tereza Gabelić, Katarina Starčević, Katarina Blažina, Helena Šarac, dr. med., Antonela Bazina, Vladimir Miletić, Ivan Adamec, izv. prof. dr. sc. Fran Borovečki, Sibila Nanković, dr. med.
Monday 17.10.2016.	08:30-10:00; KBC, edukacijski centar S. Dogan	All	Lectures	Extrapyramidal diseases	prof. dr. sc. Maja Relja
	10:00-11:30; KBC, edukacijski centar S. Dogan	All	Seminar	Extrapyramidal diseases	prof. dr. sc. Maja Relja

Date	Time	Group	Course hours type	Theme	Teaching staff
	12:00-13:30; KBC, Klinika za neurologiju, odjeli		Special clinical practicals	Practicals	doc. dr. sc. Nataša Klepac, prof. dr. sc. Maja Relja, izv. prof. dr. sc. Zdravka Poljaković, izv. prof. dr. sc. Srđana Telarović, izv. prof. dr. sc. Damir Petravić, doc. dr. sc. Željka Petelin Gadže, doc. dr. sc. Branko Malojčić, doc. dr. sc. Darija Mahović Lakušić, doc. dr. sc. Mario Habek, izv. prof. dr. sc. Ervina Bilić, Ivana Zadro, dr. med.
Tuesday 18.10.2016.	08:30-09:15; KBC, edukacijski centar J. Sokolić	All	Seminar	Spinal disorders	izv. prof. dr. sc. Damir Petravić
	09:30-11:00; KBC, edukacijski centar J. Sokolić	All	Seminar	Genetics of neurological diseases	izv. prof. dr. sc. Fran Borovečki
	11:15-12:45; KBC, Klinika za neurologiju, odjeli		Special clinical practicals	Practicals	doc. dr. sc. Marina Boban, prof. dr. sc. Maja Relja, izv. prof. dr. sc. Zdravka Poljaković, izv. prof. dr. sc. Srđana Telarović, izv. prof. dr. sc. Damir Petravić, doc. dr. sc. Branko Malojčić, doc. dr. sc. Darija Mahović Lakušić, izv. prof. dr. sc. Ervina Bilić, doc. dr. sc. Mario Habek, Barbara Barun, dr. med., doc. dr. sc. Nataša Klepac
	13:00-14:30; KBC, Klinika za neurologiju, odjeli		Special clinical practicals	Practicals	izv. prof. dr. sc. Ervina Bilić, prof. dr. sc. Maja Relja, izv. prof. dr. sc. Zdravka Poljaković, izv. prof. dr. sc. Srđana Telarović, izv. prof. dr. sc. Damir Petravić, doc. dr. sc. Željka Petelin Gadže, doc. dr. sc. Branko Malojčić, doc. dr. sc. Darija Mahović Lakušić, doc. dr. sc. Nataša Klepac, doc. dr. sc. Mario Habek, doc. dr. sc. Marina Boban
Wednesday 19.10.2016.	08:30-10:00; KBC, edukacijski centar S. Dogan	All	Lectures	Neuromuscular diseases	izv. prof. dr. sc. Ervina Bilić

Date	Time	Group	Course hours type	Theme	Teaching staff
	10:15-11:45; KBC, edukacijski centar S. Dogan	All	Seminar	Neuromuscular diseases	izv. prof. dr. sc. Ervina Bilić
	12:00-12:45; KBC, Klinika za neurologiju, odjeli		Special clinical practicals	EMNG - Practicals	doc. dr. sc. Marina Boban, izv. prof. dr. sc. Ervina Bilić
Thursday 20.10.2016.	08:30-10:00; KBC, edukacijski centar Lj. Čečuk	All	Lectures	Pain and pain syndromes	izv. prof. dr. sc. Damir Petravić
	10:15-11:45; KBC, edukacijski centar Lj. Čečuk	All	Seminar	Extrapyramidal diseases	izv. prof. dr. sc. Srđana Telarović
	12:00-14:45; KBC, Klinika za neurologiju, odjeli		Special clinical practicals	Practicals	prof. dr. sc. Maja Relja, izv. prof. dr. sc. Zdravka Poljaković, izv. prof. dr. sc. Srđana Telarović, doc. dr. sc. Željka Petelin Gadže, doc. dr. sc. Branko Malojčić, doc. dr. sc. Darija Mahović Lakušić, doc. dr. sc. Nataša Klepac, doc. dr. sc. Mario Habek, izv. prof. dr. sc. Damir Petravić, izv. prof. dr. sc. Ervina Bilić, doc. dr. sc. Marina Boban
Friday 21.10.2016.	08:30-10:00; KBC, edukacijski centar A. Hahn	All	Seminar	Headaches	izv. prof. dr. sc. Damir Petravić
	10:15-11:00; KBC, edukacijski centar A. Hahn	All	Seminar	Vertigo and Dizziness	doc. dr. sc. Branko Malojčić

Date	Time	Group	Course hours type	Theme	Teaching staff
	11:15-12:45; KBC, Klinika za neurologiju, predavaona		Special clinical practicals	Practicals	prof. dr. sc. Maja Relja, izv. prof. dr. sc. Zdravka Poljaković, izv. prof. dr. sc. Ervina Bilić, izv. prof. dr. sc. Damir Petravić, izv. prof. dr. sc. Srđana Telarović, doc. dr. sc. Željka Petelin Gadže, doc. dr. sc. Darija Mahović Lakušić, doc. dr. sc. Nataša Klepac, doc. dr. sc. Mario Habek, doc. dr. sc. Branko Malojčić, doc. dr. sc. Marina Boban
	13:00-13:45; KBC, Klinika za neurologiju, predavaona	SVI	Exam	Practicals, Preliminary exam	prof. dr. sc. Maja Relja, izv. prof. dr. sc. Zdravka Poljaković, doc. dr. sc. Darija Mahović Lakušić, doc. dr. sc. Nataša Klepac, izv. prof. dr. sc. Damir Petravić, doc. dr. sc. Željka Petelin Gadže, izv. prof. dr. sc. Srđana Telarović, doc. dr. sc. Mario Habek, izv. prof. dr. sc. Ervina Bilić, doc. dr. sc. Branko Malojčić, doc. dr. sc. Marina Boban

Lectures will take place in the Educational Center East, University Hospital Centre Zagreb, Kišpatićeva 12, 10 000 Zagreb.

Seminars will take place in the Educational Center East, University Hospital Centre Zagreb, Kišpatićeva 12, 10 000 Zagreb.

Practicals will be held in the divisions or laboratories of the Department of Neurology of the University Hospital Centre Zagreb, Kišpatićeva 12, 10 000 Zagreb.

IV. EXAMINATIONS

Types of examination and examination dates:

Students need to prepare actively for participating in seminars and practicals.

Testing of knowledge is done by preliminary exam (examination of neurological patient, neurological syndromes), written and oral final exam.

Preliminary exam (oral practical exam) will be held on the last day of the course.

Written exam consists of multiple-choice questions. Passing this exam is a requirement for approaching the oral exam. The results of written exam are being acknowledged by the end of the ongoing academic year. After that students have to approach to the written exam again. The whole exam must be finished within 5 days after the beginning of the written exam.

Course grades

Written exam:

54 - 60 points 5= excellent (A)

47 - 53 points 4= very good (B)

39 - 46 points 3= good (C)

31 - 38 points 2= satisfactory (D)

0 - 30 points 1 = fail (F)

Oral exam:

5 = excellent (A)

4 = very good (B)

3 = good (C)

2 = satisfactory (D)

1 = fail (F)

Final course grade is calculated as a mean from final written and oral exam grades.

Written exam:

Regular terms

1st term 24th October 2016

2nd term 5th December 2016

3rd term 6th February 2017

4th term 29th May 2017

5th term 10th July 2017

6th term 4th September 2017

Additional term

Date

7th term

11th September 2017

V./I. LIST OF LECTURERS AND TEACHING STAFF

1. izv. prof. dr. sc. Zdravka Poljaković
2. izv. prof. dr. sc. Ervina Bilić
3. izv. prof. dr. sc. Damir Petravić
4. prof. dr. sc. Maja Relja
5. doc. dr. sc. Mario Habek
6. doc. dr. sc. Darija Mahović Lakušić
7. doc. dr. sc. Branko Malojčić
8. doc. dr. sc. Željka Petelin Gadže
9. izv. prof. dr. sc. Srđana Telarović
10. doc. dr. sc. Marina Boban
11. izv. prof. dr. sc. Fran Borovečki
12. prof. dr. sc. Goran Šimić
13. dr. sc. Ivana Jurjević

V./II EXTERNAL ASSOCIATES:

1. izv. prof. dr. sc. Marija Žagar
2. Barbara Barun, dr. med.
3. prof. dr. sc. Ivica Kostović
4. Tereza Gabelić
5. Magdalena Krbot Skorić
6. dr. sc. Sanja Propadalo-Hajnšek
7. Ivan Adamec
8. Helena Šarac, dr. med.
9. Antonela Bazina
10. Katarina Blažina
11. Andreja Bujan Kovač, dr. med.

12. Vladimir Miletic
13. Josip Ljevak
14. Branimir Ivan Šepec
15. Petra Nimac Kozina
16. Katarina Starčević
17. Sibila Nanković, dr. med.

V./III UNTENURED LECTURERS:

1. doc. dr. sc. Nataša Klepac
2. Ivana Zadro, dr. med.

VI. LITERATURE

A. Obligatory

1. Aminoff MJ, Greenberg DA, Simon RP. Clinical Neurology. 9th Edition. New York: Lange Medical Books/McGraw-Hill, 2015.

B. Additional

1. Fuller G. Neurological Examination Made Easy. Fifth Edition. Edinburgh: Churchill Livingstone, 2013.
2. Lindsay KW, Bone I, Fuller G. Neurology and Neurosurgery Illustrated. 5th Edition. Berkshire, BE: Churchill Livingstone, 2010.
3. Adams AC. Mayo Clinic Essential Neurology. Rochester: Mayo Foundation for Medical Education and Research, 2008.