

Practice tests in biophysics (2.LF UK)/2017-18

The creation of practice tests in biophysics is one of seminar projects of students of the 1st year of General Medicine at the 2nd LF in the academic year 2017/18. Circles 1, 4, 7, 8, 9 and 10 participate in the creation of tests that are available to registered users on the Moodle website in this academic year '2017/2018'. The topics of the individual tests are based on lecture topics and practice.

The tables below show the layout of individual topics and the circular division, including the names of their authors.

(You can draw up the table following last year's model: Practice tests in biophysics (2.LF UK)/2016-17:

Practice tests for lectures

Teaching week	Theme	Circle	Authors of the test	Done, Note
1	Biomechanics (https://moodle.mefanet.cz/login/index.php)	Circle 7	<ul style="list-style-type: none"> ■ Tereza Dáňová ■ Martina Nohejlová ■ Michal Holík 	3/1/2018 - ready for review - errors corrected
2	Electricity and magnetism - X-ray (https://moodle.mefanet.cz/login/index.php)	Circle 4	<ul style="list-style-type: none"> ■ Jan Hofman ■ Alžběta Paholíkova 	Ready for review
	Electricity and magnetism (https://moodle.mefanet.cz/login/index.php)	Circle 4	<ul style="list-style-type: none"> ■ Barbora Černá 	Ready for review
3	Optics (https://moodle.mefanet.cz/login/index.php)	Circle 4	<ul style="list-style-type: none"> ■ Ondřej Krátký 	Ready for review
	Optika 2 (https://moodle.mefanet.cz/login/index.php)		<ul style="list-style-type: none"> ■ Helena Strelcová 	Ready for review
	Optika 3 (https://moodle.mefanet.cz/login/index.php)		<ul style="list-style-type: none"> ■ Tereza Sychrovská 	Ready for review
4	Biophysics of vision (https://moodle.mefanet.cz/login/index.php)	Circle 8	<ul style="list-style-type: none"> ■ Barbora Prýmková ■ DominikD (Dominik David) ■ Jan Sychrava ■ Martin Vymola 	Ready for review, questions in tests corrected
5	Acoustics (https://moodle.mefanet.cz/login/index.php)	Circle 8	<ul style="list-style-type: none"> ■ Jana Santolíkova ■ Karla Smolkova (Karla Smolková) ■ Kristynavackova (Kristýna Vacková) ■ Veronika Blahutová 	Ready for review, questions in tests corrected
6	Imaging and therapeutic methods using ionizing radiation (https://moodle.mefanet.cz/login/index.php)	Circle 7	<ul style="list-style-type: none"> ■ Vít Skala ■ Filip Kolman ■ Alexander Slivocky 	At the teacher's initiative, errors in this year's and last year's tests related to the given topic were corrected. Ready for final inspection.
7	Physical principle and application of lasers and microscopic techniques in medicine 2 (circle 10) (https://moodle.mefanet.cz/login/index.php)	Circle 10	<ul style="list-style-type: none"> ■ Ottofu (Otakar Flégr) ■ Dalibor Dráb ■ Ludmila Noskova (Ludmila Nosková) 	Ready for review

8	Thermodynamics (https://moodle.mefanet.cz/login/index.php) & Bioenergetics (https://moodle.mefanet.cz/login/index.php)	Circle 8	<ul style="list-style-type: none"> Adam Konecny Andrea Jaklová Eliška Pokorná 	Ready for review
9	Biophysical methods in regenerative medicine (https://moodle.mefanet.cz/login/index.php)	Circle 8	<ul style="list-style-type: none"> Jana Machalová Kristynajug (Kristýna Jugasová) Nella Gondová 	Ready for review
10	Biosignals (https://moodle.mefanet.cz/login/index.php)	Circle 7	<ul style="list-style-type: none"> Pavel Strnad Kristinabillikova (Kristina Billikova) 	3/1/2018 - errors corrected, the test is ready for review
11	Biophysics of cells and tissues (https://moodle.mefanet.cz/login/index.php)	Circle 7	<ul style="list-style-type: none"> Helenaplicková (Helena Plicková) Evadv (Eva Dvořáková) Lucie Romanová 	3.1. 2018 - the test is ready for review
12	Biophysics in Nanobiotechnologies			
13	Fluorescence and advanced optical techniques			

Practice tests for practitioners

Task Number	Theme	Circle	Authors of the test	Done, Note
1	Polarimetry: <ul style="list-style-type: none"> Polarimetry test (https://moodle.mefanet.cz/login/index.php) 	Circle 4	<ul style="list-style-type: none"> Vojtěch Janda 	Ready for review
	Polarimetry: <ul style="list-style-type: none"> Test - Polarimetry (circles 1, 9 2017) (https://moodle.mefanet.cz/login/index.php) 	Round 1 team 1A	<ul style="list-style-type: none"> Adamiv (Ivan Adam) Filip Malček Ondřej Richter 	Ready for review 2018-01-06 - see Polarimetry - discussion forum (https://moodle.mefanet.cz/login/index.php) 2018-01-06 - corrected according to comments ✓
		Circle 9	<ul style="list-style-type: none"> Zuzana Válova 	
2	Electrocardiography: <ul style="list-style-type: none"> EKG test (https://moodle.mefanet.cz/login/index.php) 	Round 1 team 1B	<ul style="list-style-type: none"> Lucy Baudysova (Lucie Baudyšová) Lucie Jarešová Janpavlok (Jan Pavlok) 	Ready for review 2018-01-06 - see last comments Electrocardiography - discussion forum (https://moodle.mefanet.cz/login/index.php) 2018-01-07 - corrected according to comments ✓
		Round 9 team 9A	<ul style="list-style-type: none"> Josef Havlik Jan Böhm 	
	Electrocardiography: <ul style="list-style-type: none"> Test from ECG 2 (https://moodle.mefanet.cz/login/index.php) 	Circle 4	<ul style="list-style-type: none"> Filip Baldík 	Ready for review 2018-01-06 - see last comments Electrocardiography - discussion forum (https://moodle.mefanet.cz/login/index.php)
	Perimetry: <ul style="list-style-type: none"> Test - Perimetry (https://moodle.mefanet.cz/mod/quiz/attempt.php?attempt=17356) 	Circle 1 team 1C	<ul style="list-style-type: none"> Radek Lakomý Lucie Mrázková Václav Šimánek 	Ready for review 2018-01-06 - see Perimetry - discussion forum (https://moodle.mefanet.cz/login/index.php) 2018-01-07 - corrected according to

3		Circle 9	<ul style="list-style-type: none"> Zelenkoane (Aneta Zelenková) 	comments ✓
	Perimetry: <ul style="list-style-type: none"> Test 2 - Perimetry (https://moodle.mefanet.cz/login/index.php) 	Circle 4	<ul style="list-style-type: none"> Anna Linhartová 	Ready for review 2018-01-07 ✓
4	Spectrophotometry: <ul style="list-style-type: none"> Spectrophotometry Test 2 (https://moodle.mefanet.cz/login/index.php) 	Circle 4	<ul style="list-style-type: none"> Jana Pavelcová Radka Šedivá Anna Vlčková 	Ready for review
	Spectrophotometry: <ul style="list-style-type: none"> Spectrophotometry test (https://moodle.mefanet.cz/login/index.php) 	Circle 1 team 1D	<ul style="list-style-type: none"> Martina Dietrichová Petra Kovaříčková Matej Prokopovich 	Prepared for review 2018-01-07 - see Spectrophotometry - discussion forum (https://moodle.mefanet.cz/login/index.php) 2018-01-07 - corrected according to comments ✓
		Circle 9	<ul style="list-style-type: none"> Stela Sokolová 	
5	Audiometry: <ul style="list-style-type: none"> Test Audiometry (https://moodle.mefanet.cz/login/index.php) 	Round 1 team 1E	<ul style="list-style-type: none"> Klára Machová Dominika Svobodová Michal Vrbík 	Ready for review 2018-01-07 - see Audiometry - discussion forum (https://moodle.mefanet.cz/login/index.php) 2018-01-07 - corrected according to comments ✓
		Circle 9	<ul style="list-style-type: none"> Nastasialash (Nastasia Yashchenko) Eliška Rafajová Jana Koudelková 	
6	Ultrasonography: <ul style="list-style-type: none"> Ultrasonography test 2 (https://moodle.mefanet.cz/login/index.php) 	Circle 4	<ul style="list-style-type: none"> Jana Pavelcová Radka Šedivá Anna Vlčková 	Ready for review
	Ultrasonography: <ul style="list-style-type: none"> test from Ultrasonography (https://moodle.mefanet.cz/login/index.php) 	Round 1 team 1F	<ul style="list-style-type: none"> Marek Horáček Verča Slavíková (Veronika Slavíková) Karolína Trojanová 	Ready for review 2018-01-07 - see Ultrasonography - discussion forum (https://moodle.mefanet.cz/login/index.php) 2018-01-07 - corrected according to comments ✓
		Circle 9	<ul style="list-style-type: none"> David Machek Martin Fila 	
		Circle 3	<ul style="list-style-type: none"> Ondrejvladyka (Ondřej Vladyka) 	Test USG (https://docs.google.com/forms/d/e/1FAIpQLSd8GcVtFkmbSbJUdPW M8J9RI2JsvwCTHR7esh7vMF-K6G3W_w/viewform)
	Ultrasonography: <ul style="list-style-type: none"> Ultrasonography test 3 (https://moodle.mefanet.cz/login/index.php) 	Circle 4	<ul style="list-style-type: none"> Simona Michalicová 	Ready for review
	Radioactivity: <ul style="list-style-type: none"> Test Radioactivity (https://moodle.mefanet.cz/login/index.php) 	Circle	<ul style="list-style-type: none"> Barbora svobodová (Barbora) 	2017-12-23 A review request has been made but there is not yet a discussion forum on moodle so that such a review can take place. Then Tomsa 2017-12-26

7	<ul style="list-style-type: none"> Test Radioactivity (https://moodle.mefanet.cz/login/index.php) 	7	<ul style="list-style-type: none"> Svobodová) Kristina Yaroslavtseva 	Discussion forum established But: 2017-12-28: <ul style="list-style-type: none"> Number of discussion posts: 0 Number of attempts: 0
	Radioactivity: <ul style="list-style-type: none"> Test Radioactivity 2 (https://moodle.mefanet.cz/login/index.php)	Circle 7	<ul style="list-style-type: none"> Tumovaz (Žofie Tůmová) Kristýna Glasová 	Ready for review
	Radioactivity: <ul style="list-style-type: none"> Test Radioactivity (https://moodle.mefanet.cz/login/index.php) 	Circle 4	<ul style="list-style-type: none"> Jana Pavelcová Radka Šedivá Anna Vlčková 	Ready for review
	Radioactivity <ul style="list-style-type: none"> Test Radioactivity 3 (https://docs.google.com/forms/d/e/1FAIpQLScr83SB511F8ZkwY_6-iSDmuAmAXRSXkxSoQJeQr5BmNbn4vw/viewform) 	Circle 3	<ul style="list-style-type: none"> Markéta Zelinková 	
8	Doppler sonography: <ul style="list-style-type: none"> 	Circle 3	<ul style="list-style-type: none"> Jan Řeháček 	
	Doppler sonography: <ul style="list-style-type: none"> Test from Doppler sonography (https://moodle.mefanet.cz/login/index.php) 	Circle 4	<ul style="list-style-type: none"> Anna Linhartová 	Ready for review
9	Optometry: <ul style="list-style-type: none"> Test Optometry (https://moodle.mefanet.cz/login/index.php) 	Circle 10	<ul style="list-style-type: none"> Jan Hejzlar (Hejzlar Jan) Lucka Reynoldsová 	Ready for review
10	Evoked potentials: <ul style="list-style-type: none"> Test Evoked Potentials (https://moodle.mefanet.cz/login/index.php) 	Circle 10	<ul style="list-style-type: none"> Jspring (Jonas Springorum) NatálieL (Natálie Laštůvková) Ondmaly (Ondřej Malý) 	Ready for review
11	Basic physical examination: <ul style="list-style-type: none"> Basic physical examinations - test 2 (https://moodle.mefanet.cz/login/index.php) 	Circle 4	<ul style="list-style-type: none"> Milan Žemlička 	Ready for review
	Basic physical examination: <ul style="list-style-type: none"> Physical examinations - test (https://moodle.mefanet.cz/login/index.php) 	Round 1 team 1E	<ul style="list-style-type: none"> Klára Machová 	Prepared for review 2018-01-07 – see ZTV - discussion forum (https://moodle.mefanet.cz/login/index.php) 2018-01-07 – corrected according to comments ✓
		Circle 9	<ul style="list-style-type: none"> Kateřina Englerová Vasilisa Savchenko Timea Debnarova (Timea Debnárová) 	
12	Ergometry: <ul style="list-style-type: none"> Ergometry test (https://moodle.mefanet.cz/login/index.php) 	Round 1 team 1B	<ul style="list-style-type: none"> Lucy Baudysova (Lucie Baudyšová) 	Ready for review 2018-01-07 – see Ergometry - discussion forum (https://moodle.mefanet.cz/login/index.php) 2018-01-08 – corrected according to comments ✓
		Circle 9	<ul style="list-style-type: none"> Sebrled (David Šeblre) Racekv (Vojtěch Racek) 	

Comments

Please **read, follow and comment on the discussion page:**
Discussion:Cvičné_testy_z_biofyziky_(2.LF_UK)/2017-18

Question Types

These tests should primarily be used so that students can discuss the basics themselves and find out the areas in which they do not understand the material very well. Therefore, it would be good if the tests included a range of questions in approximately the following order, e.g.:

Lecture tests

1. Review of high school physics, related to the topic
2. New theoretical insights from biophysics
3. Practical use in medicine (diagnosis, therapy)
4. Comparison of different methods (within the topic of the lecture)
5. Relationship to the topics of other lectures (e.g. ultrasound examination vs. X-ray, etc.)

Practice Tests

1. Review of high school physics, related to the topic
2. Theoretical questions, discussed at the lecture
3. Utilization of the given method in the device, device construction
4. Objectives of examination or measurement
5. Preparation and prerequisites for proper examination or measurement
6. Expected results, ranges of possible values, standards
7. Possible deviations of the examination result, artifacts, influence of interference, etc.
8. Relation to other tasks

Timeout

It would be necessary to unify the time limit for various tests a little - it is mainly by mutual agreement of the wikiwriters, who should communicate with each other. We can assume that in both the entrance exams and the exam tests, a time limit of 1 minute/question is calculated on average - in these cases, they are multichoice tests with four answer options, for other types of tests, the times need to be adjusted accordingly.

Category

Of course, test questions and tests must be created in the appropriate categories:

Lesson

Tests for individual lessons (lectures):

- 1) Biomechanics
- 2) Optics
- 3) Electricity and magnetism
- 4) Biophysics of vision
- 5) Physical principle and application of lasers and microscopic techniques in medicine
- 6) Acoustics
- 7) Thermodynamics & Bioenergetics
- 8) Biophysics of cells and tissues
- 9) Biophysical methods in regenerative medicine
- 10) Imaging and therapeutic methods using ionizing radiation
- 11) Biosignals
- 12) Fluorescence and advanced optical methods in medicine
- 13) Biophysics in nanobiotechnologies

Practice

Tests for individual practitioners

- 1) Polarimetry
- 2) Electrocardiography
- 3) Perimetry
- 4) Spectrophotometry
- 5) Audiometry
- 6) Ultrasonography

- 7) Radioactivity
- 8) Doppler sonography
- 9) Optometry
- 10) Evoked potentials
- 11) Basic physical examinations
- 12) Ergometry

Review Procedure

It goes without saying that the submitted work should first of all be "read" by the authors themselves - i.e. try the test yourself. After them, the wikiwriters who are responsible for this area - and at least some reaction to be the first to enter the relevant discussion. Then the test should pass the check of classmates - that was, after all, the main reason why they enrolled in this course as students. And only after these initial checks should you dare to give the tests to the teachers for revision. We will try to summarize briefly:

1. Tests are passed by their authors, they organize a review of their wikiwriter
2. Wikiwriters pass the tests and write at least some comments and their evaluation in the relevant discussion group
3. Each of the tests is passed by at least 20 classmates (they can be from different circles), at least half of them should react in the relevant discussion forum (at least in such a way that, for example, the test is nice and without other comments).
4. After these preliminary checks, the test will be handed over to the teachers for checking - the request will be entered in the above table with the indicated date.

Wikiscriptors

- Circle 1 – Janpavlok (Jan Pavlok)
- Circle 3-Barbora Matějková, Ema Šutáková, Andrea Strnadová
- Circle 4 – Dominik Tichý, Róbert Kováč, Vojta Janda (Vojtěch Janda)
- Circle 7 – Jitka Ludvíková, Kristyyynka (Kristýna Jašková)
- Circle 8 – Gabriela Moslerová, Jan Sychrava
- Circle 9 – Böhm Jan, Julie Ledvinová
- Circle 10 - Adam Shaker

The tests are available on the page: <https://moodle.mefanet.cz/login/index.php>

To obtain an access key, contact one of the wikiwriters or your Biophysics supervisor (for 2.LF students).

WARNING: Since the tests have not yet been professionally proofread, they may contain errors and erroneous or inaccurate information. The tests are designed to verify how students understand the lectures and how prepared they are for the practical exercises. However, when preparing for the exam in the subject Biophysics, the individual questions and answers should be further consulted with professional literature to guarantee the correctness of the given information.