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| **Naziv predmeta** | Biomedicinske zanimljivosti |
| **Kod** |  | Godina studija | 2. – 6. godina studija medicine i dentalne medicine |
| **Nositelj/i predmeta** | Prof. dr. Janoš Terzić | Bodovna vrijednost (ECTS) | 2 |
| Suradnici | Doc. dr. Jelena Korać Prlić Izv. prof. dr. Ivana Novak NakirIzv. prof. dr. Ivana Marinović TerzićDoc. dr. Jasminka Omerović | Način izvođenja nastave (broj sati u semestru) | P | S | V | T |  |
| 10 | 15 |  |  |
| Status predmeta | Izborni  | Postotak primjene e-učenja  | 0 |
| **OPIS PREDMETA** |
| Ciljevi predmeta | Potaknuti interes studenata za biomedicinskom znanošću, te stimulirati ”znanstveni” način razmišljanja. |
| Uvjeti za upis predmeta i ulazne kompetencije potrebne za predmet | Nema preduvjeta. |
| Očekivani ishodi učenja na razini predmeta (4-10 ishoda učenja)  | Studenti će biti upoznati s logikom različitih otkrića (1) te okolnostima i važnosti (2) zanimljivih biomedicinskih otkrića. Studetni će razumijeti principe znanstvenog pristupa u biomedicini (3) te važnost timskog rada (4) u znanosti. Znanja koja će studenti steći tijekom će ih potaknuti na ”znanstveni” način razmišljanja (5) te će ih potaknuti da istraže više o različitim temama (6) te da se možda i sami krenu u znanost. |
| Sadržaj predmeta detaljno razrađen prema satnici nastave  | **PREDAVANJA (15 sati):***JESU LI NAMJEŠTALI REZULTATE ILI SU IH SAMO KRALI?*Gregor MendelLuis PasterRudolf VirchowPriča o inzulinu*ŠTO TREBAJU ČINITI BUDUĆI NOBELOVCI? (osim pohađati ovaj kolegij)*Što čitati?Kako se ponašati? *PORTRETI NOBELOVACA*- Draga Kelly (kazao je obraćajući se rodici), strast za ljubljenjemostala je ista samo sam tehniku usavršio - *Kary Mullis*- Na 65. rođendan (dan umirovljenja) radio je pokuse do u osamnavečer. Sutradan ujutro ništa od njegovi stvari nije bilo u labu i uredu, a dobio je dvije Nobelove nagrade – *Fred Sanger**SREĆA*Bezvoljni zamorci liječe ljudeUmjetna sladila*POKUSI NA SEBI*Čir želuca*PORCIJU LJUDSKOG MOZGA, MOLIM*Prioni: povijest otkrića i sadašnja zbunjenost.Podjeljene su dvije Nobelove nagrade, a o njima se malo zna.Možda ni ne postoje. **SEMINARI (15 sati):***USPJELE GREŠKE*AspirinRendgenske zrake*RAK*Sami ga stvorimo. Zašto sebi to činimo?Otkriće prvih antitumorskih lijekova.AKTUALNE TEMETehnologije uređivanja gena: CRISPR, ZnF, TALENInducirane matične stanice iPS Mikrobiom Starenje |
| Vrste izvođenja nastave: |  predavanja seminari i radionice ☐ vježbe ☐ *on line* u cijelosti☐ mješovito e-učenje☐ terenska nastava |  samostalni zadaci ☐ multimedija ☐ laboratorij☐mentorski rad☐       (ostalo upisati) |
|
| Obveze studenata | Nazočnost na nastavi 80% predavanja i 90% seminari. |
| Praćenje rada studenata *(upisati udio u ECTS bodovima za svaku aktivnost tako da ukupni broj ECTS bodova odgovara bodovnoj vrijednosti predmeta):* | Pohađanje nastave |  0,4 |  |       |  (Ostalo upisati) |       |
| Seminarski rad |  0,6 |  |       |  (Ostalo upisati) |       |
| Pismeni ispit | 1,0 |  |       | (Ostalo upisati) |       |
| Usmeni ispit |   |  |       |  |  |
| Ocjenjivanje i vrjednovanje rada studenata tijekom nastave i na završnom ispitu | Ocjena se formira temeljem pismenog ispita, seminarskog rada i aktivnost tijekom kolegija.  |
| Obvezna literatura (dostupna u knjižnici i putem ostalih medija) | **Naslov** | **Broj primjeraka u knjižnici** | **Dostupnost putem ostalih medija** |
| Materijali s predavanja |  | *MEFST web 100%* |
|  |  |  |
| Dopunska literatura  | 1. Story of Science. Power, Proof and Passion. Presented by Michael Mosley, BBC. 2010.2. Cell. Presented by Adam Rutherford. BBC, 2010.3. Morton A. Meyers. Happy accidents: serendipity in modern medical breakthroughs. Arcade Publishing, New York, 2007.4. Lewis RA. Discovery. Windows on the life science. Blackwell Science, Malden, 2001.5. Waller J. Fabulous science. Fact and fiction in the history of scientific discovery. Oxford University Press, Oxford, 2002. |
| Načini praćenja kvalitete koji osiguravaju stjecanje utvrđenih ishoda učenja | -Analiza kvalitete nastave od strane studenata i nastavnika, -Analiza prolaznosti na ispitima, -Izvješća Povjerenstva za kontrolu provedbe nastave, -Izvaninstitucijska evaluacija (posjet timova za kontrolu kvalitete Nacionalne agencije za kontrolu kvalitete, uključenje u TEEP). |
| Ostalo (prema mišljenju predlagatelja) |       |

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| **NAME OF THE COURSE** | **Biomedical curiosities**  |
| **Code** |  | Year of study | from 2nd to 6th year |
| Course teacher | Professor Janoš Terzić | Credits (ECTS) | 2 |
| Associate teachers | Assistant professor Jelena Korać Prlić, Associate professor Ivana Novak NakirAssociate professor Ivana Marinović Terzić Assistant professor Jasminka Omerović | Type of instruction (number of hours) | L | S | E | T |
| 10 | 15 |  |  |
| Status of the course | Elective | Percentage of application of e-learning | 0% |
| **COURSE DESCRIPTION** |
| Course enrolment requirements and entry competences required for the course | No requirements. |
| Learning outcomes expected at the level of the course (4 to 10 learning outcomes) | Students will be introduced to the logic (1) behind different discoveries and will learn background and importance (2) of many scientific breakthroughs. Students will understand principles of scientific approach in biomedicine (3) and will understand importance of multidisciplinary approach (4) in science. Knowledge that students acquire will stimulate them to think in a “scientific way” (5) and should encourage them to investigate more (6) about science or to follow a scientific career (7) themselves.  |
| Course content broken down in detail by weekly class schedule (syllabus) | **Lectures (15 hours):**How everything beginsWERE THEY FALSIFYING RESULTS OR WERE JUST STEELING THEM?Gregor Mendel; Luis Paster; Rudolf Wirchov; Insulin storyWHAT FUTURE NOBEL LAUREATES HAVE TO?What to read? How to behave? PORTRAIT OF THE NOBEL LAUREATES- Dear Kelly (talking to his cousin), passion for kissing is still the same, but in the meantime I perfected the technique. *Kary Mullis*- On his 65th birthday (day of his retirement) he was performing experiments until 8pm. Tomorrow morning his lab bench was clean, and his office was empty. He had two Nobel prizes. *Fred Sanger*HAPPINESS- Moody rats for human happiness; Artificial sweeteners EXPERIMENTS ON OURSELVES- Gastric ulcer; LSDWHAT ARE YOU HAVING FOR LUNCH TODAY?, HUMAN BRAIN - Prions: discovery and current confusion. Although two Nobel prizes were awarded, we are still uncertain about them. It could be that they do not even exist.**Seminars (15 hours):**MISTAKES THAT WORKED – Aspirin; X raysCANCER- We make it ourselves, why we are doing it? Discovering first chemotherapeutics.MODERN THEMESDNA editing techniques: CRISPR, ZnF, TALENInduced pluripotetnt stem cells – iPSMicrobimeAging |
| Format of instruction |  lectures seminars and workshops☐ exercises ☐ *on line* in entirety☐ partial e-learning☐ field work |  independent assignments☐ multimedia ☐ laboratory☐ work with mentor☐       (other) |
|
| Student responsibilities | In accordance to Rules of studying and Deontological code for USSM students. |
| Screening student work *(name the proportion of ECTS credits for each* *activity so that the total number of ECTS credits is equal to the ECTS value of the course)* | Class attendance | 0,4 | Research |       | Practical training |       |
| Experimental work |       | Report |       | Written exam | 1,0 |
| Essay |       | Seminar essay | 0,6 | Project |       |
| Tests |       | Oral exam |       |       (Other) |       |
| Grading and evaluating student work in class and at the final exam | Grading will be bases on written exam results and the quality of seminar essay and students activity (attendance).  |
| Required literature (available in the library and via other media) | **Title** | **Number of copies in the library** | **Availability via other media** |
| Material presented during lectures. |       |  MEFST web 100% |
|       |       |       |
|       |       |       |
| Optional literature (at the time of submission of study program proposal) | 1. Story of Science. Power, Proof and Passion. Presented by Michael Mosley, BBC. 2010.2. Cell. Presented by Adam Rutherford. BBC, 2010.3. Morton A. Meyers. Happy accidents: serendipity in modern medical breakthroughs. Arcade Publishing, New York, 2007.4. Lewis RA. Discovery. Windows on the life science. Blackwell Science, Malden, 2001.5. Waller J. Fabulous science. Fact and fiction in the history of scientific discovery. Oxford University Press, Oxford, 2002. |
| Quality assurance methods that ensure the acquisition of exit competences | * Teaching quality analysis by students and teachers
* Exam passing rate analysis
* Committee for control of teaching reports
* External evaluation
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| Other (as the proposer wishes to add) |       |