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| CODE : BIOHUM 17 | COURSE TITLE: THE MODERN GENETIC CONSTRUCTS | | | ECTS: 6 |
| COORDINATOR: WOJCIECH JUZWA | | DEPARTMENT: BIOTECHNOLOGY AND FOOD MICROBIOLOGY | | |
| COURSE CATEGORY THE MODERN GENETIC CONSTRUCTS | | | | |
| VOLUME(H) 75 | | | PERSONAL WORK (H) | |
| LECTURE: 45 | PRACTICALS / LAB 30 | PLACEMENT: (H) | PROJECT: (H) | OTHER MODALITIES: (H) |
| EVALUATION: | | OTHER MODALITIES: | | LECTURER(S) |
| EVALUATION MODALITIES | | | | WOJCIECH JUZWA MARCIN SCHMIDT AGNIESZKA OLEJNIK-SCHMIDT |
| ORAL INDIVIDUAL REPORT | | | | |
| WRITTEN INDIVIDUAL REPORT | | | | |
| FINAL ORAL EXAM | | | | |
| FINAL WRITTEN EXAM | X | | | |
| COMMENTS OF EVALUATION: | | TEACHING METHODS: LECTURES & LABS | | |
| SEMESTER WINTER / SUMMER | | LANGUAGE: ENGLISH | | |
| PERIOD: 12 WEEKS | | YEAR OF STUDY: FOURTH | | |
| OBJECTIVES | | | | |
| To familiarize students with the structure of modern genetic constructs, underlying the elements aiming at regulating the expression of genes of interest or investigating the mechanisms involved in gene expression. | | | | |
| CONTENTS | | | | |
| <ul style="list-style-type: none"> ▪ Basic techniques in genetic engineering: DNA recombination technology using restriction enzymes, ligases, egzonucleases; ▪ The structure and function of basic elements consisting in genetic constructs depending on application; ▪ The methods of introducing genetic constructs into plant and animal cells; The mechanisms of integration of genetic constructs with the host genomic DNA, the random character of integration process - position effect phenomena; ▪ The structure and function of additional genetic elements allowing for preventing the position effect (insulators), increasing the expression of genes of interest and regulating the expression by switching on and off the appropriate regulatory elements - the use of recombinases. | | | | |
| GROUP SIZE: 15 | | PRE-REQUIRES : BIOCHEMISTRY, MOLECULAR BIOLOGY | | |