



Theoretical and Practical Course Introduction Form – Shahrekord University of
Medical Sciences
Educational Assistant – Medical Education Studies and Development Center

Introduction to the Course: Genetic Engineering First Semester: 1403-1404

Faculty: Medicine Department: Genetics

*Field and level of education: Master of Science in Human Genetics	*Course name and number: Genetic Engineering
*Venue: Group office	*Date and time: Saturday ۸-۱۰ and Saturday 13-15
*Number and type of units (theoretical/practical): ۲ theoretical units	
Prerequisite courses: None*	
Phone and contact days: ۰۲۸ - ۳۳۳۳۱۴۷۱*	Name of the course instructor: Dr. * Ghasemi
*Email s.ghasemi@skums.ac.ir	* Office Address: Faculty of Medicine

*Overall objective of the lesson: Familiarity with the basics of genetic engineering, gene manipulation, and production of recombinant proteins.
:Specific lesson objectives
-۱How to purify and work with DNA and RNA
-۲Gene cloning in prokaryotes and eukaryotes, production of transgenic organisms
-۳Analysis and purification of engineered proteins, antibodies

* Main sources of the lesson (book title, author's name, year and place of publication, publisher's name, chapter or page numbers referred to in this lesson - if it is not necessary to read the entire book or all its volumes as a source)
-۱Animal transgenesis; Houdebine; ۱ st edition
-۲Gene cloning and DNA analysis; TA Brown, ۶ th edition
-۳Introduction to biotechnology and genetic engineering; Nair ۵ th edition

* How to evaluate students and the burden associated with each evaluation:
A) Formative assessment (quizzes, assignments, midterm exams(... Weight: 40%
B) End of course (comprehensive exam of all topics(Grade: 60%
*Course leader's policy regarding dealing with student absenteeism and tardiness in class: Failure to attend daily class questions and answers will result in loss of grade. Absenteeism exceeding the allowed amount will result in exclusion from the end-of-course exam.

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Schedule for the presentation of the course program: Genetic Engineering, first semester					
Necessary preparation for students before starting class	teacher	topic	hour	date	No
The references	Dr.Ghasemi	History of the emergence of genetic engineering	۸-۱۰	۱۴۰۴/۱/۲۳	۱
The references	Dr.Ghasemi	Cloning vectors in prokaryotes	۱۳-۱۵	۱۴۰۴/۱/۳۰	۲
The references	Dr.Ghasemi	Cloning vectors in eukaryotes	۸-۱۰	۱۴۰۴/۱/۳۰	۳
The references	Dr.Ghasemi	DNA manipulation and the use of enzymes	۱۳-۱۵	۰۴/۲/۶	۴
The references	Dr.Ghasemi	Extraction and purification of DNA from living cells	۱۰-۸	۰۴/۲/۶	۵
The references	Dr.Ghasemi	Introduction and entry of DNA into a living cell	۱۳-۱۵	۰۴/۲/۱۳	۶
The references	Dr.Ghasemi	How to obtain a clone from a pure gene	۸-۱۰	۰۴/۲/۱۳	۷
The references	Dr.Ghasemi	Studying the location and structure of the cloned gene	۱۳-۱۵	۰۴/۰۲/۲۰	۸
Hands out, review articles and references	Dr.Ghasemi	Study of expression and use of cloned genes	۱۰-۸	۰۴/۰۲/۲۰	۹
The references	Dr.Ghasemi	Study of expression and use of cloned genes	۱۳-۱۵	۰۴/۲/۲۷	۱۰
The references	Dr.Ghasemi	Protein production from cloned genes	۱۰-۸	۰۴/۲/۲۷	۱۱
The references	Dr.Ghasemi	Differential display techniques and their applications	۱۳-۱۵	۰۴/۳/۳	۱۲
The references	Dr.Ghasemi	DNA blots and their medical applications	۸-۱۰	۰۴/۳/۳	۱۳
The references	Dr.Ghasemi	Polymorphism and DNA analysis in forensic medicine	۱۳-۱۵	۰۴/۳/۱۰	۱۴
The references	Dr.Ghasemi	Random and directed mutagenesis and its medical applications	۱۰-۸	۰۴/۳/۱۰	۱۵

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The references	Dr.Ghasemi	Transgenic plants and animals and their applications	۱۳-۱۵	۰۴/۳/۱۷	۱۶
The references	Dr.Ghasemi	Genetic engineering in medicine and pharmaceutical industries	۱۰-۸	۰۴/۳/۱۷	۱۷
Comprehensive	Dr.Ghasemi	Final exam		According to the training program	۱۸

***End of semester exam date: According to the training program**

***Other important notes for students:**

Attend class meetings on time and actively.

Conducting tests and announcing scores according to the training schedule

Dr. Sorayya Ghasemi
Teacher and Course Leader