





Topic	Sub-topic
Chapter 1. Genetic variation: mutation	Genetic variation and its significance. Origin and consequences of mutation. Chromosome rearrangements. Mutation rates. Reversion and suppression.
Tema 2. DNA mobile	Abundance in the genomes. Classification of transposable elements. Proliferation Molecular evolution. Impact on the genomes. Domestication
Tema 3. Genetic recombination	Recombination rates. Gene conversion. Sexual dimorphism and recombination rate, crossing-over and gene conversion. Gene conversion bias.

Planning				
Methodologies / tests	Competencies	Ordinary class hours	Student's personal work hours	Total hours
Guest lecture / keynote speech	A6 A11 A12 A13 B1	10	20	30
Multiple-choice questions	B1 B2	2	0	2
Document analysis	A3 A6 A11 A12 B1	4	8	12
Supervised projects	A3 A6 A11 A12 B1	0	10	10
ICT practicals	A3	10	10	20
Personalized attention		1	0	1

(\*The information in the planning table is for guidance only and does not take into account the heterogeneity of the students.

Methodologies	
Methodologies	Description
Guest lecture / keynote speech	En cada clase se expondrán contenidos sobre diferentes aspectos del temario
Multiple-choice questions	Prueba escrita en la que se tratará cualquier aspecto abordado en la docencia teórica y práctica
Document analysis	Presentación y discusión (en inglés) de documentos audiovisuales y/o bibliográficos relacionados con la materia.
Supervised projects	
ICT practicals	Trabajos con herramientas informáticas de análisis de la variación genética

Personalized attention	
Methodologies	Description
Document analysis	Los estudiantes podrán acudir a las tutorías de los profesores en aquellos horarios previamente establecidos.

Assessment			
Methodologies	Competencies	Description	Qualification
ICT practicals	A3	Valorarse a asistencia ás sesións prácticas e a execución dos exercicios propostos polo profesor. Para o seguimento e avaliación do aprendizaxe, os alumnos haberán de elaborar e presentar un caderno de prácticas. Nesta actividade avaliarase a adquisición da competencia A5.	15
Multiple-choice questions	B1 B2	Test de resposta múltiple sobre os contenidos teóricos e prácticos. Cando menos o 50% da proba será en inglés. Nesta actividade avaliarase a adquisición das competencias A5, A9, A16.	70



Supervised projects	A3 A6 A11 A12 B1	Elaboración e defensa de monografías sobre temas seleccionados polo profesor. Nesta actividade avaliarase a adquisición das competencias A9 e A16.	15
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#### Assessment comments

#### Sources of information

<b>Basic</b>	<ul style="list-style-type: none"><li>- E.C. Friedberg et al. (2006). DNA repair and mutagenesis. Second edition. ASM Press</li><li>- N L Craig et al. (2002). Mobile DNA II. ASM Press</li><li>- Gibson, G. (2009). A primer of genome science. Sinauer Associates</li><li>- Meyers, R. A. (2007). Genomics and genetics: from molecular details to analysis and techniques. Wiley-VCH</li><li>- Weiner, M. P., Gabriel, S., and Claibo, J. (2007). Genetic variation: a laboratory manual. Cold Spring Harbor Laboratory Press</li></ul>
<b>Complementary</b>	<ul style="list-style-type: none"><li>- Watson et al. (2004). Molecular Biology of the gene. Fifth edition. Pearson-Cummings</li><li>- R Scott Hawley, MY Walker (2003). Advanced genetic analysis. Finding meaning in a genome. . Blackwell Publishing</li><li>- J. M. Coffin et al. (1997). Retroviruses. Cold Spring Harbor Laboratory Press</li><li>- Hartl, D. L. (2009). Genetics: analysis of genes and genomes. Jones and Bartlett</li></ul>

#### Recommendations

##### Subjects that it is recommended to have taken before

Xenómica/610441014

Xenética Humana/610441016

Toxicología Xenética/610441017

##### Subjects that are recommended to be taken simultaneously

##### Subjects that continue the syllabus

##### Other comments

(\*The teaching guide is the document in which the URV publishes the information about all its courses. It is a public document and cannot be modified. Only in exceptional cases can it be revised by the competent agent or duly revised so that it is in line with current legislation.