



History of Genetics

Code: 103628 ECTS Credits: 3

Degree	Туре	Year	Semester
2502442 Medicine	ОТ	2	2
2502442 Medicine	ОТ	3	0
2502442 Medicine	ОТ	4	0
2502442 Medicine	ОТ	5	0
2502442 Medicine	ОТ	6	0

The proposed teaching and assessment methodology that appear in the guide may be subject to changes as a result of the restrictions to face-to-face class attendance imposed by the health authorities.

Contact

Name: Carlos Tabernero Holgado

Email: Carlos.Tabernero@uab.cat

Prerequisites

There is no prerequisite.

Use of Languages

Principal working language: spanish (spa)

Some groups entirely in English: No
Some groups entirely in Catalan: No
Some groups entirely in Spanish: No

Objectives and Contextualisation

The subject of History of Genetics is studied in the 2nd course of the Degree in Medicine as an optional subject.

The main objectives of the subject are:

To introduce the student to the consideration and experimentation of hist

documentation and scientific popularization, and as a pedagogical tool in the fields of science and medicine.

Within the specific field of the history of genetics, to give the student the necessary tools to identify and critically a To introduce the student to the historical processes of generation, circula

in sociocultural transformations throughout history.

To introduce the student to the analysis of the role and situation of genet

strategic and economic importance of genetics and genomics in the life sciences, health and society.

And so, to give the student the necessary tools to synthesize, from the historical exploration of genetics, a perspe

Competences

Medicine

- Communicate clearly, orally and in writing, with other professionals and the media.
- Critically assess and use clinical and biomedical information sources to obtain, organise, interpret and present information on science and health.
- Demonstrate basic research skills.
- Demonstrate knowledge of the historical principles underlying health, illness and the medical profession.
- Demonstrate understanding of the importance and the limitations of scientific thought to the study, prevention and management of diseases.
- Demonstrate, in professional activity, a perspective that is critical, creative and research-oriented.
- Use information and communication technologies in professional practice.

Learning Outcomes

- 1. Communicate clearly, orally and in writing, with other professionals and the media.
- 2. Define the factors determining healthcare transition in today's world.
- 3. Demonstrate a diachronic vision of healthcare institutions and the healthcare strategies implemented.
- 4. Demonstrate basic research skills.
- 5. Demonstrate, in professional activity, a perspective that is critical, creative and research-oriented.
- 6. Identify changes and continuities in the forms and contents of the medicalisation process.
- 7. Identify the origins and the institutionalisation of scientific activity, and the epistemological bases of scientific thought in the health sciences.
- 8. Identify the processes of professionalisation in the field of the health sciences and the tendency towards specialisation.
- 9. Make correct use of databases and works of reference (bibliographies, encyclopedias, and dictionaries) in the health sciences.
- 10. Recognise and distinguish the different medical traditions that make up the current health panorama.
- 11. Recognise health and illness as socially determined constructions that change over time.
- 12. Recognise the scope and the limitations of scientific thought in the health sciences.
- 13. Understand medical science as knowledge in construction, subject to constant change, posing new challenges and opportunities.
- 14. Use information and communication technologies in professional practice.

Content

History as a vehicle for reflection / cultural construction, as a tool for scientific research, documentation and popu

of science and medicine.

Within the specific field of the history of genetics, identify and analyze critically the main historiographical currents

Develop a historical vision of genetics, identifying and characterizing the

communication and management of scientific (genetic) knowledge,

as well as its intervention in sociocultural transformations throughout history.

Analysis of the role and situation of genetics and their social relations cur

of genetics and genomics in the life sciences, health and society.

And so, give the student the necessary tools to synthesize, from the historical advance of genetics, a perspective Distributive blocks

- A. Introduction to the history of genetics within the field of the history of s
- B. Inheritance throughout history. Concepts and sociocultural relations (L
- C. The two cultures and the pillars of contemporary biology (nineteenth c
- D. From Mendel to the Synthetic Theory of Evolution. Genetics and the h
- E. The development of molecular biology: individuals, society and inform
- F. Genetics, genomics, sociobiology: debates and challenges.

Methodology

Directed activities (26.7% = 20 hours): Theoretical classes / discussion sessions with ICT support.

Supervised activities (15% = 11.25 hours): Individual problem solving an Autonomous activities (53.3% = 40 hours): Individual study, bibliography Description (directed and supervised activities: theoretical classes and di Block A. Introduction to the history of genetics within the scope of the his Bloc B. Inheritance throughout history. Concepts and socio-cultural relati Bloc C. The two cultures and the pillars of contemporary biology (ninetee Bloc D. From Mendel to the Synthetic Theory of Evolution. Genetics and Bloc E. The development of molecular biology: individual, society and inf Bloc F. Genetics, genomics, sociobiology: debates and challenges: 1 cla Deliveries: Final written essay in relation to a specific topic integrated in t

via virtual campus or email.

In the event that activities and tests or exams cannot be taken onsite, they will be adapted to an online format ma

Homework, activities and class participation will be carried out through forums, wikis and/or discussion on TEAM!

Lecturers will ensure that students are able to access these virtual tools, or will offer them feasible alternatives.

Activities

Title	Hours	ECTS	Learning Outcomes
Type: Directed			
THEORY (TE)	20	0.8	14
Type: Supervised			
TUTORIALS	11.25	0.45	14
Type: Autonomous			
TASK DEVELOPMENT / PERSONAL STUDY / PAPER READING / INTEREST REPORTS		1.6	14

Assessment

The evaluation of the subject is continuous in relation to:

- Active participation in class discussions, including the presentation of tv

during the semester (40% of the final grade).

- The preparation of a brief final written essay (40% of the final grade) an

on a specific topic integrated into the contents and competences of the subject,

in which the student must demonstrate its ability to historically situate and analyze critically

any subject related to the history of genetics.

For the evaluation to be effective, the students must pass each of the difl

Otherwise, they will be considered as "non-assessable".

Students who have not passed the course may be submitted to a resit. To participate in the resit the student must have been previously evaluate

whose weight equals a minimum of two thirds of the total grade of the subject.

In addition, to participate in the resit the student must have obtained at le Students who do not take the theoretical and practical assessment tests

will exhaust the rights of the registration of the subject.

In the event that activities and tests or exams cannot be taken onsite, they will be adapted to an online format ma

Homework, activities and class participation will be carried out through forums, wikis and/or discussion on TEAM!

Lecturers will ensure that students are able to access these virtual tools, or will offer them feasible alternatives.

Assessment Activities

Title	Weighting	Hours	ECTS	Learning Outcomes
Attendance and active participation in classes and seminars	40%	1.5	0.06	1, 2, 4, 3, 5, 13, 6, 7, 8, 11, 10, 12, 9, 14
Oral presentation of work	20%	0.75	0.03	1, 2, 3, 13, 6, 7, 8, 11, 10, 12, 14
Written evaluation through reports	40%	1.5	0.06	2, 4, 3, 5, 13, 6, 7, 8, 11, 10, 12, 9, 14

Bibliography

Essential references

BARONA, J.L. *Història del pensament biològic*. València, Universitat de València, Col·lecció Educació-Materials, 2003 (1998)

GIORDAN, A. (coord.) Conceptos de Biología, vols. 1&2. Madrid, Labor, 1988

JAHN, I., LOTHER, R. y SENGLAUB, K. Historia de la biología. Barcelona, Labor, 1990

MORANGE, M. A history of molecular biology. Harvard: Harvard University Press; 2000.

Additional references (1)

BOWLER, Peter J. (1995) Charles Darwin, el hombre y su influencia. Madrid: Alianza..

DARWIN, Charles (1985) The Origin of Species. London: Penguin Classics (1859).

DARWIN, Charles (1988) L'origen de les espècies. Barcelona : Edicions 62 (1859).

DARWIN, Charles. The Complete Works of Charles Darwin online http://darwin-online.org.uk/

DOBZHANSKY, T., AYALA, F.J., STEBBINS, G.L., VALENTINE, J.W. (1983) Evolución. Barcelona: Omega

GLICK, Thomas (ed.) (1988) *The Comparative Reception of Darwinism*. Chicago : The University of Chicago Press (1ª ed. 1974).

MAYNARD-SMITH, J. y SZATHMÁRY, E. (2001) Ocho hitos de la evolución. Barcelona: Tusquets (Metatemas) (1ª ed. 1999).

TEMPLADO, Joaquín (1982) Historia de las teorías evolucionistas. Madrid: Alhambra, (1ª ed. 1974)

DE CHADAREVIAN, Soraya. (2002) Designs for Life: Molecular Biology after World War II. Cambridge: Cambridge University Press.

FABIAN, A.C. (ed.) (2001) Evolución: sociedad, ciencia y universo. Barcelona: Tusquets (Metatemas) (1ª ed. 1998).

JACOB, François (1973) La lógica de lo viviente: una historia de la herencia. Barcelona: Laia (1ª ed. 1970).

JACOB, François (1975) Lógica de lo viviente e historia de la biología. Barcelona: Laia (1ª ed. 1970).

KEVLES, Daniel; HOOD, Leroy (eds) (1992) *The code of codes. Scientific and social issues in the Human Genome Project.* Cambridge, MA: Harvard UniversityPress.

MONOD, Jacques (2000) El Azar y la Necesidad. Barcelona, Tusquets (Metatemas) (1ª ed. 1970).

SCHRÖDINGER, Erwin (2001) ¿Qué es la vida? Barcelona: Tusquets (Metatemas) (1ª ed. 1944).

WATSON, J.D. (STENT G.S., ed.) (1980) The Double Helix. Nueva York: Norton (1ª ed. 1968)

WATSON, J.D. (2004) La Doble Hélice. Barcelona: RBA (1ª ed. 1968)

APPLE, Rima D.; APPLE, Michael W. (1993) Screening Science. Isis 84(4): 750-754.

CRICHTON, Michael (1991) Jurassic Park. Londres: Arrow (1ª ed. 1990).

CRICHTON, Michael (1994) Parque Jurásico. Barcelona: Plaza & Janés (1ª ed. 1990).

ELENA, Alberto. (2002) Ciencia, Cine e Historia: de Méliès a 2001. Madrid: Alianza

FONT-AGUSTÍ, Jordi (coord.) (2002) Entre la Por i l'Esperança: Percepció de la Tecnociència en la Literatura i el Cinema. Barcelona: Proa.

NIETO GALAN, Agustí (2011) Los públicos de la ciencia. Expertos y profanos a través de la historia. Madrid: Marcial Pons.

SECORD, James (2004) Knowledge in Transit, Isis 95, 654-672

SHINN, Terry; WHITLEY, Richard (eds.) (1985) *Expository Science. Forms and Functions of Popularization.* Reidel: Dordrecht., pp. 3-28.

SNOW, Charles P. (1965) Les dues cultures i la Revolució Científica. Barcelona: Ediciones 62 (1ª ed. 1959).

SNOW, Charles P. (1993) The Two Cultures. Cambridge: Cambridge University Press (1ª ed. 1959).

SPIELBERG, Steven (1993) Jurassic Park. Universal Pictures [DVD].

VV.AA. (1983). Journal of Contemporary History 18(3). [Monográfico sobre "cine e historia"].

VV.AA. (1989). Sylva Clius 8. [Monográfico sobre "cine e historia de la ciencia"].

VV.AA. (2006). Fotogrames de ciència. *Mètode* 48: 57-108. / Anuario 2006: 198-237 [Monográfico sobre "ciencia y cine"].

VV.AA. (2009). Focus: Historicizing 'Popular Science'. Isis 100(2): 310-368.

Additional references (2)

Rothfels, Nigels. Savages and beasts. The birth of the modern zoo. Baltimore: The Johns Hopkins University Press; 2002.

Cittadino, Eugene. *Nature as the laboratory. Darwinian plant ecology in the German empire, 1880-1900.* Dordrecht (Holland): Reidel publishing company; 1990.

Farber, Paul Lawrence. *The emergence of ornithology as a scientific discipline: 1760-1850.* Cambridge: Cambridge University Press; 1982.

Bowler, Peter J. *Theories of human evolution. A century of debate, 1844-1944.* Baltimore: The Johns Hopkins University Press; 1986.

Kay, Lily E. Who wrote the book of life? A history of the genetic code. Stanford, California: Stanford University Press; 1993

Worster, Donald. *Nature's economy. A history of ecological ideas*. 2nd edition. Cambridge: Cambridge University Press; 1994.

Bud, Robert. The uses of life. A history of biotechnology. Cambridge: Cambridge University

Weindling, Paul. *Health, race and German politics between national unifications and Nazism, 1870-1945.* Cambridge: Cambridge University Press; 1989.

Ellegard, Alvar. Darwin and the general reader. The reception of Darwin's Theory of evolution in the British periodical press, 1859-1872. Chicago: The University of Chicago Press; 1990.

Olby, Robert. Origins of mendelism. Chicago: The University of Chicago Press; 1985.

Turney, Jon. *Frankenstein's footsteps. Science, genetics and popular culture.* New Haven: Yale University Press; 1998.

Marouf Arif Hasian, Jr. *The rhetoric of eugenics in Anglo-American thought*. Georgia: The University of Georgia Press; 1996.

Bashford Alison, Levinell Philippa, Eds. *The Oxford handbook of the history of eugenics*. Oxford; New York: Oxford University Press; 2010.