

THEMES FOR THE BACHELOR'S EXAM
JULY 2026 / FEBRUARY 2027 SESSION
PROGRAMME OF STUDY BIOLOGY (in english)

The Bachelor's degree exam will consist of:

- **Test I – Evaluation of fundamental and specialty knowledge – written exam -**
- **Test II – Public defense of bachelor thesis -**

Test I will include topics from the following themes:

1. Structure and organization of genetic material in prokaryotes and eukaryotes
2. Unity and diversity of plants - Cormobionta
3. The structure of phytocenosis. Categories of geoelements, bioforms and ecological indices
4. Metabolism physiology
5. Main lineages in the diversification of the animal kingdom
6. Secondarily marine vertebrate groups
7. Natural selection
8. Acquired behaviours
9. Speciation

References:

- Cain ML, Reece JB, Urry LA, Wasserman SA, Minorsky PV, 2016, Campbell biology 11th edition, Pearson.
- Pierce B. A. 2014, Genetics a conceptual approach, 5th edition, W. H. Freeman and company.
- Coman, N., 1991, Genetica, vol. I, Univ. "Babeș-Bolyai" Cluj-Napoca.
- Raicu, P., 1991, Genetica, Editura Didactică și Pedagogică, București.
- Hartl D.L., Jones, E.W., 1998. Genetics: Principles and Analysis, 4th Edition, Jones and Bartlett Publishers, Sudbury, Massachusetts.
- Klug, W.S., Cummings, M.R., Spencer, C.A., Palladino, M.A., 2019, Concepts of Genetics, 12th edition, Pearson Publishing, London, 864 pp.

- Drăgulescu, C., 2009, Morfologia și sistematica plantelor, Cormobionta, Editura Universității “Lucian Blaga” din Sibiu.
- Cristea, V., 2014, Plante vasculare: diversitate, sistematică, ecologie și importanță, Presa Univ. Clujeană.
- Short, E., George, A., 2013, A premier with botanical latin vocabulary. Cambridge University Press.
- Allaby, M., 2013, A dictionary of plant sciences. Series Oxford Quick References, Oxford University Press.
- Stuessy, T., 2009, Plant taxonomy. Columbia University Press.
- V. Cristea, D. Gafta, F. Pedrotti, 2004, Fitosociologie, Ed. Presa Univ. Clujeană, pg: 82 – 114
- Kent, M., 2011, Vegetation description and data analysis: a practical approach, Wiley Blackwell.
- Elzinga, C., Salzer, D., 2011, Monitoring plant and animal populations, Wiley Blackwell.
- Bonham, C., 2013, Measurements for terrestrial vegetation, Wiley Blackwell
- Guyton & Hall, 2019, Textbook of Medical Physiology, Elsevier
- Despopoulos A., Silbernagl S., 2017, Color Atlas of Physiology, Thieme
- Beets Gordon J., Desaix P., Johnson E., et al., 2022, Anatomy and Physiology 2e, Rice University, Houston, TX
- Brînza I., 2025 – Animal and Human Physiology (course notes, electronic format)
- Brînza I., 2025 – Nutrition and Reproductive Functions in Mammals (course notes, electronic format)
- Tăușan I., 2019 – Animal and Human Physiology (course notes, electronic format)
- Lam YY, Ravussin E. Analysis of energy metabolism in humans: A review of methodologies. Mol Metab. 2016;5(11):1057–1071.
- Liu H., Wang S., Wang J., et al. Energy metabolism in health and diseases. Signal Transduction and Targeted Therapy. 2025;10:69.
- Bucșa, C., 2000, Biologie animală, vol. I, Edit. Univ. “Lucian Blaga” din Sibiu.
- Bucșa, C., 2005, Biologie animală, vol. II, Edit. Univ. “Lucian Blaga” din Sibiu.
- Bucșa, C., 2005, Zoologia nevertebratelor, Edit. Univ. “Lucian Blaga” din Sibiu.
- Gheoca, V., 2001, Biologie animală, vol.III, Editura Alma Mater, Sibiu.
- Gheoca, V., 2010, Zoologia vertebratelor, Edit. Univ. Lucian Blaga din Sibiu.
- Stugren, B., Coroiu, I., 1994, Sistematica filogenetică, anatomia comparată și zoogeografia vertebratelor, vol. I-II, Univ. „Babes Bolyai”, Cluj Napoca.

- Anderson, D.T. (ed.), 2002, Invertebrate Zoology, 2nd ed., Oxford University Press, Victoria.
- Duncan, T. , Stuessy, T. F. (eds.), 2008, Cladistics: Theory and Methodology, Van Nostrand Reinhold, New York.
- Stugren, B., Coroiu, I., 1996, Sistematica filogenetică, anatomia comparată și zoologia vertebratelor, vol. I-II, Univ. "Babeș Bolyai", Cluj-Napoca
- Gheoca, V., 2010, Zoologia vertebratelor, Edit. Univ. Lucian Blaga din Sibiu
- Linzey, D., 2011, Vertebrate Biology, Johns Hopkins University Press, pp. 608.
- Hutchins, M. (Series editor), 2003, Grzimek's Animal Life Encyclopedia, Vol. 4 – 14. Second edition, Thompson Gale.
- Sîrbu, I., Benedek, A.M., Tăușan, I., 2024. Evolutionism (course and seminar notes & electronic material). 190 p. ULBS, www.ecologia-la-sibiu.ro
- Mayr, E., 2004. De la bacterii la om. Evoluția lumii vii. Ed. Humanitas, București.
- Darwin, C., 1957. Originea speciilor. Ed. Acad. R.P.R.
- Shapiro, J.A., 2011. Evolution. A view from the 21st Century. FT Press Science, New Jersey.
- Smith, J.M., Szathmáry, E., 1999. The Origins of Life; from the birth of life to the origin of language. Oxford University Press.
- Sîrbu, I., Benedek, A.M., 2024. Ethology. The Biology of Animal and Human Behaviour (course and seminar notes & electronic manual). 145 pg. ULBS, [www-ecologia-la-sibiu.ro](http://www.ecologia-la-sibiu.ro)
- Cociu, M., 1999 - Etologie. Comportamentul animal. Ed. ALL, București.
- Chenzbraun, E., 1978 - Comportamentul animalelor. Ed. Did. și Ped., București.
- Slater, P.J.B. (Editor), 1989. Encyclopedia of Animal Behaviour. Facts on File Inc., New York
- Ruhela, A., Sinha, M., 2010. Recent Trends in Animal Behaviour. Oxford Book Company, Jaipur.