BEHAVIOR AND THE BRAIN

Grado en Comportamiento y Ciencias Sociales BBSS SEP-2023 B&B-BS.2.M.A

Area Human Resources and Organisational Behaviour

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Category: COMPULSORY

Language: English

Professor: **JULIA FOLCH SCHULZ**

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Scientific specialization: UNESCO Code: 6106 (Experimental Psychology)

Affiliation: I am a member of the research group PS-019 "Psychobiology of Facial Information Processing", recognized by the Universidad Autónoma of Madrid since 16/11/2006. I also do collaborations in the field of Cognitive Neuroscience (RCN, reference the Ministry of Science and Innovation: PSI2008-00968-E/PSIC). I am specifically dedicated to the study of emotional expression in children with autism spectrum disorders (ASD), and stress.

Research area: Biopsychology (autism, emotions, stress)

Academic background: Bachelor degree in Psychology, obtained in June 1990. Ph.D. in Psychology, December 2015. Universidad Autónoma de Madrid (UAM).

Teaching experience: I have been a professor in the faculty of psychology from 1998/1999 until 2020. Since then, I am a teacher at the BBSS of this University. I have teaching experience in the following areas: Neuroscience, Biological Psychology, Psychophysiology, Infantile Psychopathology, Animal Learning, and Differential Psychology. I´m also an academic tutor (class coordinator and advisor).

Research experience: Biopsychology (emotions, autism, stress). I participate regularly in research activities at the UAM-University related to autism. I participate with regularity as a lecturer in national and international congresses, related to the facial expression of emotion, infantile disorders, and stress. I have published as first author and co-author different books and papers mostly related to the facial expression of emotion.

Professional experience: I am working as a Psychologist since my graduation in 1990. I am currently still a clinical child psychologist (home care), although actually I am not working in this field on a regular basis. I have also experience as a studend counsellor (selecting undergraduate students, acting as a “counseller”, and training skills-management of anxiety, improvement of studying habits and techniques, etc.). I started my career as a university professor in 1998 at the SEK University. There I continued until the university was acquired by the IE-University (2008).

- To be confirmed after consulting with the students, but always fixed days (2 days, 1 hour per day).

- Contact details: E-mail: julia.folch@ie.edu . Telephone number: 921-415367 (Segovia)

SUBJECT DESCRIPTION

First of all, try to answer the following questions-"True or false"?

- Only humans have created culture

- Chimpanzees do not show speech because their brains are not prepared for it

- A stimulating environment can change the structure of an animal´s brain

- Autism shows identifiable genetic and brain abnormalities

- If we have a stressful life, we could inherit a lower stress response to our future generations.

- Once our brains are developed, we can never grow new nerve cells

- Some human nerve cells are more than 3 feet long

- Nerve impulses travel at the speed of light

- Our bodies make chemicals that are similar in structure to heroine, and marijuana

- Some people are incapable of feeling pain

- There are no anatomical differences between women´s and men´s brain

- People are "right-brained" or "left-brained"

- A child can have half of the brain removed and still develop normal intelligence

I am afraid you will have to take this subject to find the answer to these questions... But I am sure that you, like other people, have assumed certain "neuromyths". In this subject you will learn that certain things are very different from what you thought! Let´s try to surprise you!

For those of you who cannot wait to learn something interesting about the brain, the following, cool video. Enjoy!

https://www.ted.com/talks/suzana_herculano_houzel_what_is_so_special_about_the_human_brain/transcript

LEARNING OBJECTIVES

As surely you already guessed, the aim of this subject is to introduce you into the biological basis of behavior. To this end, this subject focuses specifically on how the structure and functioning of the nervous system determines human behavior. This will involve first a general introduction to the genetic, developmental and evolutionary basis of the nervous system, and with it, of human behavior. You will realize that this requires referring to concepts as "epigenetics" (ever heard about that?), but also to society and culture among others for gaining a precise understanding of the emergence of the human nervous system.

Then, there follows a thorough description of the general structures that make up the nervous system, and then a reference to its basic functional mechanisms (brain wiring, and nervous communication). That will allow you to understand the anatomical basis that sustains the main psychological processes (motivation, emotion, attention, learning, memory, and language- we will address these topics specifically during the next course in the our subject "Behavioral Neuroscience").

In order to make the main contents more understandable and interesting we are going to link the previous information with the most common neurological and psychiatric disorders. Neurodevelopmental disorders (Autism Spectrum Disorders, for example) and those associated with aging (Alzheimer's, for example), will receive special attention because they are very common.

We will finish by referring to the basic methodology usually applied to the study of the nervous system (neuroimaging techniques, and the polygraph, also called "lie detector", etc.).

TEACHING METHODOLOGY

IE University teaching method is defined by its collaborative, active, and applied nature. Students actively participate in the whole process to build their knowledge and sharpen their skills. Professor's main role is to lead and guide students to achieve the learning objectives of the course. This is done by engaging in a diverse range of teaching techniques and different types of learning activities such as the following:

Learning Activity	**Weighting**	**Estimated time a student should dedicate to prepare for and participate in**
Lectures	37.33 %	28.0 hours
Discussions	5.33 %	4.0 hours
Exercises in class, Asynchronous sessions, Field Work	22.67 %	17.0 hours
Group work	8.0 %	6.0 hours
Individual studying	26.67 %	20.0 hours
TOTAL	100.0 %	75.0 hours

PROGRAM

CORE TOPICS

The following program is tentative. Although we will cover all of the listed topics, the activities originally planned, the readings selected, and even the pace with which the contents of the classes are taught depend on group performance, and interests. **Confirm activities regularly with the information available on campus, especially pre and post activities.**

Additionally, we may have to rearrange some sessions in order to accommodate guest speakers or field trips. Unless otherwise noted, you are expected to complete all corresponding pre-activities BEFORE attending the session. In the post-activities you will have more time and always a due date.

Remember that this course consists of 8 topics, grouped into 4 core units. The different topics will be conveniently completed with practical activities.

CORE TOPIC I: INTRODUCING NEUROSCIENCE

- Get to know what is the subject about and what I expect from you
- Know the historical appearance of neurosciences

CORE TOPIC II- BASICS IN GENETICS AND EVOLUTION

- Get hold of a basic knowledge about human genetics and evolution
- Acquire a precise understanding of how the nervous system relates to behavior

CORE TOPIC III- ANATOMY OF THE NERVOUS SYSTEM

- Acquire the necessary basic knowledge about the main brain structures underlying human behavior
- Get hold of a basic knowledge about the prenatal development of the human brain

CORE TOPIC IV- BASIC CONCEPTS AND PRINCIPLES OF NERVOUS ACTIVITY

- Acquire the necessary basic knowledge about the main functional neurological mechanisms underlying human behavior: nervous communication
- Get hold of key knowledge about the main procedures available for studying the typical and the altered nervous system.

SESSION 1 (LIVE IN-PERSON)

CORE TOPIC I: "INTRODUCING NEUROSCIENCE"

SUBJECT PRESENTATION

A. Theoretical contents

We will introduce the main contents and methods linked to this subject. Please do not miss this class, as the profesor provides you with essential information for understanding the logic behind the subject and basic requirements you need to fulfill to successfully pass this subject

B. Activities

- Pre-Activity 1: Please check the syllabus-complete the questionnaire
- Group Activity: Game: What are you seeing? Class debate. Solving doubts.
- Post-Activity 1: Documentary- “Neuroethics-what's coming” (46:47 min)

Multimedia Material: Video: Neuroethics: Bold New Neuroscience; Brave New Neuroethics? Conference by James Giordano (27:58)

SESSION 2 (LIVE IN-PERSON)

TOPIC 1: A BRIEF HISTORY OF NEUROSCIENCE

A. Main theoretical contents

1. The importance of Neuroscience. 2. The history of the brain and behavior: From Antiquity to Renaissance and first scientific notions. 3. The importance of the beginnings of genetics and the theory of evolution for the study of the human nervous system. 4. Human Neuroscience: Modular functioning or location of functions. At what point is the debate today?

B. Activities

- Pre-Activity 2: Short documentary-"History of the brain"
- Group Activity:
    - o Surfing the net: Ethical and non-ethical applications of Neuroscience during history. Group debate.
    - o Game-stimulating reflection: Where is the mummy´s brain
- Post-Activity: None.

Multimedia Material: Video: The Mind/Brain: Crash Course History of Science #30 (12:46)

SESSION 3 (LIVE IN-PERSON)

TOPIC 1: A BRIEF HISTORY OF NEUROSCIENCE

A. Main theoretical contents

Human Neuroscience: Modular functioning or location of functions- At what point is the debate today? Modern Neuroscience.

B. Activities

- Pre-Activity: None
- Group Activity: Surfing for Brain-Projects
- Post-Activity 2: Documentary "Madhouses" (58:37)

TOPIC-ACTIVITY 1: "Delgado"

Multimedia Material: Video: “Madhouses” (58:37)

SESSION 4 (LIVE IN-PERSON)

CORE TOPIC II: BASICS OF GENETICS AND EVOLUTION

TOPIC 2: FUNDAMENTALS IN HUMAN GENETICS

General Theoretical Contents

1. Basic concepts and principles of Genetics. 2. Types of genetics: qualitative, quantitative and molecular genetics. 3. Genetic processes creating variability. Mitochondril DNA.

A. Main theoretical contents:

Basic concepts and principles of Genetics. Types of genetics. Main genetic processes creating variability. Epigenetics.

B. Activities

- Pre-Activity 3: "Crashcourse- Main genetic concepts" + "Variations"
- Group Activity: Activity: Main genetic processes-mitosis and meiosis. Peer-explanation.
- Post-Activity: None

Multimedia Material: Video: "Crashcourse" (10:17)

Multimedia Material: Video: "Variations" (20:00)

SESSION 5 (ASYNCHRONOUS)

TOPIC 2: FUNDAMENTALS IN HUMAN GENETICS

A. Main theoretical contents

ASY 1- Video-session: "Genetic disorders"-Video-lecture and documentary

B. Activities

- Pre-Activity: None
- Group Activity: Revising and discussing main concepts and ideas
- Post-Activity 3: Questionnaire

TOPIC-ACTIVITY 2: "Eugenics" or "Karyotype"

Multimedia Material: Video: "Eugenics- "The Dark side of Science: The Horror of Eugenics Theory" (Short Documentary) (26:44)

Multimedia Material: "The eugenics crusade" (2020) (Prime Video)

SESSION 6 (LIVE IN-PERSON)

TOPIC 3: FUNDAMENTALS IN HUMAN EVOLUTION

General Theoretical Contents

1. Basic concepts and principles of Evolution. 2. The evolution of mankind. 3. The evolution of the nervous system. 4. What makes the human brain different from other primate brains?

A. Main theoretical contents

Concepts and principles of evolution

B. Activities

- Pre-Activity 4: Short video-"Human migration"
- Group Activity: Game: "Comparing Lamarck´s and Darwin´s theory of evolution". Class-debate
- Post-Activity: None

Multimedia Material: Video: "Human Migration" The Story of Human Migration: Your Life in a Tooth | Carolyn Freiwald | TEDx University of Mississippi (11:06)

Multimedia Material: Video: What ancient DNA can teach us about migration in prehistory | Professor Ian Barnes | TEDxLondon (13:49)

SESSION 7 (ASYNCHRONOUS)

TOPIC 3: FUNDAMENTALS IN HUMAN EVOLUTION

A. Main theoretical contents:

ASY 2- Video session: "Evolution of the human brain". "The first human"- documentary (48:45 min)Video-lecture

B. Activities

- Pre-Activity: None
- Group Activity: Revising and discussing main concepts and ideas.
- Post-Activity 4: Questionnaire.

Possible complementary activity: Guided visit: Atapuerca, Archaeological Museum. A written report must be handed for getting extra-points.

TOPIC-ACTIVITY 3: "Walking with cavemen-comparing hominids"

Multimedia Material: Video: "Hominids"

Multimedia Material: Video: Alternative video: "The species Oddysey", ("La odisea de las especies", all chapters)

SESSION 8 (LIVE IN-PERSON)

MIDTERM

A. Main theoretical contents:

Revision of Core Topic 1-History, Genetics and Evolution.

B. Activities

- Pre-Activity (this activity does not receive points): Tutorial
- Group Activities: QUIZ, practical case "Three identical strangers"
- Post-Activity (this activity does not receive points): Quiz-revision

SESSION 9 (LIVE IN-PERSON)

CORE TOPIC III: ANATOMY OF THE NERVOUS SYSTEM

General Theoretical Contents

Structure of the NS: 1. Histology of the nevous system. 2. Gross anatomy of the nervous system: Basic nomenclature. Major subdivisions of the NS: Ontogeny and phylogeny of the Nervous System. 3. Main features of the Central Nervous System (CNS) 4. Structure and main features of the Peripheral Nervous System (PNS). 5. Protective and supporting systems of the Nervous System: Bony structures, membrane structures, ventricular system and blood vessels of the NS. The blood-brain barrier. 6. Major injuries to the supporting structures (meningitis, hydrocephalus, aneurysms).

Functioning of the NS: 1. Some notes about the functional organization of the nervous system. 2. Modular organization of the nervous system: Functional blocks, functional asymmetry, lobes and cortical areas, columnar organization of the cerebral cortex. 3. The nerve pathways as key elements in the functional organization of SN: Key concepts (tracts, columns, fascicles, nerves and fibres). Bonding fibres in SN. 4. Disorders that occur with changes in nerve connections (agenesis of the corpus callosum, autism spectrum disorders, spinal cord injuries).

TOPIC 4: NERVE CELLS

A. Main theoretical contents:

Cells in the Nervous System-General introduction and neurons.

B. Activities

- Pre-Activity 5: Surf the net-"The Cristopher Reeve-case"
- Group Activity: What basic knowledge do I have? Short quiz about cells
- Post-Activity: None

Multimedia Material: Have a look on this helpful foundation

SESSION 10 (LIVE IN-PERSON)

TOPIC 4: NERVE CELLS

A. Main theoretical contents:

Glial cells

B. Activities

- Pre-Activity: None
- Group Activity: Surfing the net- Why are astrocytes so relevant?
- Post-Activity 5: "Brain Tumors"

TOPIC ACTIVITY 4: Movie-"Phenomenon"

Article: Reading: Brain tumors: an introduction (Mayfield Brain & Spine)

Multimedia Material: Video: "Phenomenon" (1:37:00) (Netflix)

SESSION 11 (LIVE IN-PERSON)

TOPIC 5: BASIC FEATURES OF THE CENTRAL NERVOUS SYSTEM

A. Main theoretical contents:

Development of the Nervous System.

B. Activities

- Pre-Activity 6: Crashcourse "Crash on the brain"
- Group Activity: What basic knowledge do I have? Short quiz about the brain
- Post-Activities: None

Multimedia Material: Video: Brief Crashcourse on the CNS: (10:07)

SESSION 12 (LIVE IN-PERSON)

TOPIC 5: BASIC FEATURES OF THE CENTRAL NERVOUS SYSTEM

A. Main theoretical contents:

Main cortical and subcortical structures

B. Activities

- Pre-Activity 7: "My connectome" (TED-TALK Sebastian Seung)
- Group Activity: Puzzle of the brain.
- Post-Activity: None

Multimedia Material: Video: "My connectome" (22:34)

SESSION 13 (LIVE IN-PERSON)

TOPIC 5: BASIC FEATURES OF THE CENTRAL NERVOUS SYSTEM

A. Main theoretical contents:

Functional organization of the Nervous System

B. Activities

- Pre-Activity 8: Short videos-"Music and the brain"
- Group Activity: Game-Identifying different brain modules. Peer-explanations.
- Post-Activity 6: TED-TALK-"Mapping the brain"

TOPIC-ACTIVITY 5: Documentary: "What makes you unique?" (49:00) or "Disembodied"

Multimedia Material: Video: How Close Are We to a Complete Map of the Human Brain? (10:00)
Multimedia Material: Video: National Geographic Live! - Mapping the Brain | Nat Geo Live (22:27)
Multimedia Material: Video:"Disembodied":
Article: Clinical case from Oliver Sacks (Dance to think)

SESSION 14 (LIVE IN-PERSON)

TOPIC 6: BASIC FEATURES OF THE PERIPHERAL NERVOUS SYSTEM

A. Main theoretical contents:

"Main structures of the Peripheral Nervous System"

B. Activities

- Pre-Activity 9: Crashcourse- Crash on the PNS
- Group Activity: The PNS- puzzle
- Post-Activity 7: Anatomy book: Coloring slides

Multimedia Material: Video: Crash on the PNS (10:00)

SESSION 15 (ASYNCHRONOUS)

TOPIC 6: BASIC FEATURES OF THE PERIPHERAL NERVOUS SYSTEM

A. Main theoretical contents:

ASY 3- Video session: "Supportive structures of the brain-the ventricular system"

B. Activities

- Pre-Activity: None
- Group Activity: surfing the net- The hypophysis
- Post-Activity 8: Questionnaire

TOPIC-ACTIVITY 6: "Performing my own lamb-brain dissection"

SESSION 16 (LIVE IN-PERSON)

CORE TOPIC IV: BASIC CONCEPTS AND PRINCIPLES OF NERVOUS ACTIVITY

General theoretical contents

1. The physiological variables commonly studied in psychology. 2. Brief overview of the neural origin of psychophysiological signals: Electrical and chemical driving. 3. Disturbances in electrical conduction and chemical nervous system (epilepsy, drug addiction).

TOPIC 7: ELECTRICAL AND CHEMICAL COMMUNICATION IN THE BRAIN

A. Main theoretical contents:

Basic concepts and principles of electric communication

B. Activities

- Pre-Activity 10: "The chemical imbalance theory"
- Group Activity: Surfing the net- What is epilepsy
- Post- Activity: None

Multimedia Material: Video: "The chemical imbalance theory" (20:00)

Multimedia Material: Video: "Why depression is not just a chemical imbalance": (6:00)

SESSION 17 (ASYNCHRONOUS)

TOPIC 7: ELECTRICAL AND CHEMICAL COMMUNICATION IN THE BRAIN

A. Main theoretical contents

ASY 4- Video lecture: Basic principles of chemical communication

B. Activities

- Pre-Activity: None
- Group Activity: Clinical case: Conversion Disorder/Somatic Symptom disorder
- Post-Activity 9: Questionnaire

TOPIC-ACTIVITY 7: "The brain on drugs"

Multimedia Material: Video: "Addiction" (53:20)

SESSION 18 (LIVE IN-PERSON)

TOPIC 8: REGISTERING NERVOUS ACTIVITY

A. Main theoretical contents

1. Studying the structure and functioning of the CNS- Electrophysiological study of spontaneous brain activity; electrophysiological study of brain activity associated with discrete events: Evoked potentials (ERP); the study of nonelectric brain activity. Other types of activity. 2. Basics about the polygraph: Registering the activity of the PNS- Somatic Nervous system (muscle activity, eye movements and blinking, respiratory activity); activity of the Autonomic Nervous Sytem (activity of the skin; cardiovascular activity).

B. Activities

- Pre-Activity: None

- Group Activity: What is a lie detector? Identifying components.

- Post-Activity 10: Questionnaire

TOPIC-ACTIVITY 8: "Understanding my basic physiological activity"

Multimedia Material: Video: "How a lie detector works": (04:16)

Multimedia Material: Video: "Brain waves reveal deception": (04:24)

SESSION 19 (LIVE IN-PERSON)

Class Presentations: Selected by the professor.

SESSION 20 (LIVE IN-PERSON)

Quiz 2 or Final Quiz.

EVALUATION CRITERIA

EVALUATION CRITERIA

We will consider following activities when calculating the final grade, and remember:

If necessary, the professor has the right to introduce occasional adjustments to this planning if the situation or the characteristics of the group require it. These adjustments will always be made with the agreement of the student.

All activities will have written instructions that will be posted on blackboard. Most of them show deadlines. Not respecting the delivery dates can decrease the points you get for them.

- **Conceptual knowledge: 40 %**

Implies mastery of concepts and practice knowledge.1 single final exam or 2 short quizzes: the first halfway up the agenda (topics 1-3), the second the day of the official exam. The dates of these quizzes are outlined (please find them specified in the program), but can be adjusted depending on the circumstances. Those student who decide not to complete the first quiz or do not pass it, must submit to the complete subject.

Quizzes could include different formats:

Practical cases (2) with short questions (about 3 questions per case) (no negative points for errors), short questions where you need to integrate knowledge, statements you need to correct or justify (about 10-15), or multiple-choice option (10 questions per case, each with 3-4 options and negative points for errors). When possible, the professor will offer you different formats and allow you to choose your preferred format. All quizzes and formats show the same value.

Final and retake exams

They show the same two formats than quizzes, but are more extensive than quizzes:

o Practical cases (3) with a total amount of 9 short questions (no negative points), short questions or statements you need to correct (about 10-15) or 30 multiple choice questions (3-4 options, with negative points for errors).

o One large question: you will have to relate different theoretical and practical contents (no negative points).

The professors experience is that it is easier to pass the subject if you do a daily work and attend the quiz.

Please consider following rules referring to quizzes:

- Attendance to the first extra-quiz is voluntary, but highly recommended. If you do not want to do the quiz, you must attend the final exam.
- Remember that if you do not do the extra-quiz on the specified day you cannot recover it on another date and you must take the final exam.
- If you pass the extra-quiz with at least a mark of 4 the profesor considers that you have eliminated the first part of the subject and you do not have to do this part again. Although it is not mandatory, the profesor strongly recommends that all students who obtain a lower grade attend the final exam, because experience confirms that it is nearly impossible to pass the subject if the average grade on the quizzes is less than 4.
- If you pass the first quiz. you will only have to complete the second quiz on the day of the final exam. It cannot be before because we do not have enough teaching days.
- You can earn extra points for participating in the extra quiz: a maximum of 0.3 points will be added to the final grade- 0.1 points if the average grade in the two quizzes is "aprobado" (4-6,9), 0.2 if it is "notable" (7-8,9), 0.3 if it is "sobresaliente" (9-10).
- You could retake a quiz with a grade that does not satisfy you (but only the day of the final exam, never before), but you must discuss this possibility with the teacher before the scheduled exam date. If this second attempt is less successful than the first, the profesor will consider the best grade for obtaining the average mark.
- It is not necessary to pass the quizzes or the final exam, but the average grade on the quizzes and practical activities must be at least 5 to pass the subject. Experience confirms that this is nearly impossible if the average grade on the quizzes/the grade in the final exam is less than 4.

Please ask if you have more questions regarding quiz

Practice: 40 %

Students obtain the grade for performing **2 individual Topic-related Activities** (**20%**), and a **Final Presentation on the subject (20%, group-activity)**. The professor evaluates the activities with a maximum of 10 points. During the evaluation, we consider the content (80%), but also formal aspects (20%).
- The formal aspects refer to the general presentation of the work, writing, orthography and the inclusion of quotations and references according to APA criteria.
- The content aspects refer to the correct presentation of the basic problem, the adequate and precise use of concepts, the correct inclusion of methodological aspects, the coherent presentation of results and the clear exposition of the contents. The teacher gives a special, positive importance to the integration of contents in discussions and conclusions, and the presence of personal contributions.
- In the case of group work the professor could ask students to complete a peer-to-peer (P2P) evaluation, asking students to review and critique each other's work using a tool called "Feedback Fruits".

It is highly recommended that students complete all compulsory activities. It is always better to deliver a moderately performed activity than not to deliver it, since the activities not delivered will be scored with a grade of 0.

- **Participation of the student: 20%**

Includes class attendance and engagement in general class activities. But please bear in mind that **attendance and participation is not the same!**

- *Attendance* (5%) means sitting in class and attending the asy sessions. Attendance will be measured using a discount policy: starting with 10 points, every attendance failure will substract a proportional part of the grade until you reach a 30% of attendance failure in which case you will receive 0 points. Note that further from that percentage you will fail the course. Please refer to the complete IE attendance policy documents in your Campus Online.

- *Engagement* (15%) is more than sitting in class, and implies face-to-face and online activities (pre-activities, post-activities, Asynchronous session-activities, Forum...). Choose your preferred activities! There are individual and group-activities available. Your professor will inform you about the format in advance.You need not to complete them all to get a good grade in the subject! The points you can get for each of them varies. The professor evaluates both, quantity, but especially quality of individual contributions on a regular basis by observation and oral examination.

Free contributions (please check "methodology" for additional information): 10% extra (1 point extra).
We consider:
- Quality and relevance of the activity.
- Evaluation of product by the teacher.

Note: The teacher has the right to adjust all the percentages if she considers it justified.

FINAL GRADE IN THE SUBJECT:

We obtain the grade with the following formula:
Final grade= Theoretical grade x 0,40 + Practice grade x 0,40 + Participation grade x 0,20

Remember: The professor adds the bonus after establishing the final grade.To pass the course, students must obtain at least a score of 5.0. The final grade is established independently from the grades obtained in the different activities (including quizzes). However, it is extremely difficult to pass having a grade lower than 4 in the theoretical part or in the practical part.

If you need to take the RETAKE EXAM, you will only need to retake those parts and contents you failed. Nevertheless, you must remember that the maximum grade that you may obtain in the retake will be 8 out of 10. In no case, we save grades from the course to the next course.

criteria	**percentage**	**Learning Objectives**	**Comments**
Final exam or 2 quizzes	40 %		Midterm is voluntary
Group activities: ASY, Postactivities	10 %		Choose favorite
Individual Topic-Activities	20 %		Choose favorite
Individual activities: Face-to face, Pre-activities	10 %		Choose favorite
Group Presentation	20 %		6-7 participants per group

RE-SIT / RE-TAKE POLICY

Each student has four (4) chances to pass any given course distributed over two (2) consecutive academic years. Each academic year consists of two calls: one (1) ordinary call (during the semester when the course is taking place); and one (1) extraordinary call (or “re-sit”) in June/July.

Students who do not comply with the 70% attendance requirement in each subject during the semester will automatically fail both calls (ordinary and extraordinary) for that Academic Year and have to re-take the course (i.e., re-enroll) during the next Academic Year.

The Extraordinary Call Evaluation criteria will be subject to the following rules:

- Students failing the course in the ordinary call (during the semester) will have to re-sit evaluation for the course in June / July (except those students who do not comply with the attendance rule, and therefore will not have that opportunity, since they will fail both calls and must directly re-enroll in the course during the next Academic Year).

- It is not permitted to change the format nor the date of the extraordinary call exams or deadlines under any circumstance. All extraordinary call evaluation dates will be announced in advance and must be taken into consideration before planning the summer (e.g. internships, trips, holidays, etc.)

- The June/July re-sit will consist of a comprehensive evaluation of the course. Your final grade for the course will depend on the performance in this exam or evaluation only. I.e., continuous evaluation over the semester (e.g. participation, quizzes, projects and/or other grade components over the semester) will not be taken into consideration on the extraordinary call. Students will have to achieve the minimum passing grade of 5 and the maximum grade will be capped at 8.0 (out of 10.0) – i.e., "notable" in the extraordinary call.

- Re-takers: Students who failed the subject on a previous Academic Year and are now re-enrolled as re-takers in a course will need to check the syllabus of the assigned professor, as well as contact the professor individually, regarding the specific evaluation criteria for them as re-takers in the course during that semester (ordinary call of that Academic Year). The maximum grade that may be obtained as a retaker during the ordinary call (i.e., the 3rd call) is 10.0 (out of 10.0).

After exams and other assessments are graded by the professor (on either the ordinary or extraordinary call), students will have a possibility to attend a review session (whether it be a final exam, a final project, or the final overall grade in a given course). Please be available to attend the session in order to clarify any concerns you might have regarding your grade. Your professor will inform you about the time and place of the review session.

- Students failing more than 18 ECTS credits after the June/July re-sits will be asked to leave the Program. Please, make sure to prepare yourself well for the exams in order to pass your failed subjects.

- In case you decide to skip the opportunity to re-sit for an exam or evaluation during the June/July extraordinary call, you will need to enroll in that course again for the next Academic Year as a re-taker, and pay the corresponding tuition fees. As you know, students have a total of four (4) allowed calls to pass a given subject or course, in order to remain in the program.

BIBLIOGRAPHY

Recommended

- Breedlove, S. and Watson, N.. (2020). *Behavioral Neuroscience.* 9th Edition.. Sinauer Associates. ISBN 1605359076 (Printed)

O Picture reviews at end of chapters o Includes lots of internet resources o Practice exercises are poor quality

- Crossman, A.R. & Neary, D. (2019). *Neuroanatomy: An Illustrated Colour Text.* 6th ed.. Elsevier. ISBN 9780702074622 (Printed)

O Concise, superbly illustrated coverage of neuroanatomy oStraightforward explanations of complex concepts o Coverage of neuropsychological disorders and their relationship to neuroanatomy o Very medical

- Anatomy Academy. (2020). *Human Brain: Coloring Book.* 1st. ed.. Muze Publishing. ISBN 1838188614 (Printed)

The most effective way to skyrocket your neuroanatomical knowledge, all while having fun

- Diamond, M.C.; Scheibel, A.B.. (2000). *The Human Brain Coloring Book.* 1st. ed.. Collins Reference. ISBN 0064603067 (Printed)

O Makes learning the basics of neuroscience funny oSimple but accurate pictures O Frequently out of stock

BEHAVIOR RULES

Please, check the University's Code of Conduct here. The Program Director may provide further indications.

ATTENDANCE POLICY

Please, check the University's Attendance Policy here. The Program Director may provide further indications.

ETHICAL POLICY

Please, check the University's Ethics Code here. The Program Director may provide further indications.