

ZOO 4926 - Special Topics Section: 4150 Class number: 18674

Course on Arts, Science and Education (CASE): “The hidden language of Nature: The golden ratio in Arts and Nature”

SUMMER B 2020

1 credit, no prerequisites

Location: Zoom (synchronous)

Meeting time: Tuesdays and Thursdays: 6th period



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Teaching team for Summer B 2020

Students will be assigned a member of our teaching team for guidance and questions during the first week of classes, please email your designated instructor and add “**Golden Ratio class**” in the subject line of the emails. All instructors are available to meet with students by appointment via email request.

Dr. Marina Ascunce, Co-Instructor and course coordinator, ascunce@ufl.edu

I am an evolutionary biologist with broad interests on host-parasite and environment interactions, biological invasions and climate change. My courses reflect my interdisciplinary research and are focus on hands-on learning activities, scientific literature discussion through team-work and peer-instruction, and science communication. In this course, I will introduce students to concepts of evolution, impact of the Golden Ratio in our societies, conservation, and connect the Golden Ratio to our current knowledge in biology.

Mrs. Maria De Vecchi, Co-Instructor, graphic designer and entrepreneur, mariadevecchimx@gmail.com

I am a graphic designer, entrepreneur, with extensive experience in illustration techniques. I will lead the topics on Leonardo’s art techniques and concepts such as the Aurea proportions as it related to arts. I would like to show the students the importance of proportion within his artwork and, specifically, Aurea Proportion (used by Da Vinci in a lot of his paintings). Also, I plan to show the use of Area Proportion in Native American Art.

Dr. Marie de Gracia Coquerel, Co-Instructor, Postdoctoral Associate Instructor, ma.degracia@ufl.edu

I am a postdoctoral researcher at Emerging Pathogen Institute. My interests are focused on coevolution and plant-pathogen interactions. In this course, I will lead the topic on “the Golden Ratio in Maths” and introduce some statistical concepts about the Golden Ratio.

Ms. Patricia Perez, Undergraduate Teaching Assistant, p.perez@ufl.edu

I am a UF Emerging Scholar undergraduate student with major in Environmental Sciences. I have more than 5 years of experience conducting outreach activities through institutions such as

Zoo Miami and Fairchild Botanical Gardens and UF. I will bring my experience and knowledge on insects and on outreach to the course to guide students in the K-12 activities.

Mr. Julio Quinones, Undergraduate Teaching Assistant, jquinones1@ufl.edu
Fibonacci sequence in Science, Golden Ratio in music

Guest lectures: The course will have a series of guest lectures that are going to be indicated in the schedule below.

Course Description: This is an interdisciplinary Course on Arts, Science and Education (CASE) where theme is “*The hidden language of Nature: The golden ratio in Arts and Nature*”. For this CASE Summer B 2020, we will explore the presence of the golden ratio in Nature by conducting “virtual” visits to Natural History and Arts Museums and harnessing the free available online digital collections. We will create active learning activities using those virtual settings, and also we will look into our own resources from home, for example finding the golden ratio in plants from our own backyard. We will also analyze how artists from all times have used the golden ratio for art, architecture and engineering, from the Greek Pantheon, to Leonardo Da Vinci and Dali to Native American Art. Students will do from their own home both artistic and science related pieces where they will measure the golden ratio as well. This is a very open-ended course to spark creativity. As part of the educational component, with the gained knowledge, the students will co-create and conduct virtual educational activities with K-12 students at local schools or another public audience (service-learning component). One of the goals it is that the students create activities to measure the golden ratio in nature and art using digitalization art pieces and biological specimens. The overarching broader impacts of our course are to empower UF students to be active learners, to highlight the importance of museum collections and their digitalization, as well as for them to appreciate, respect, and protect nature and the arts. Depending on the interests of the course participants, final projects could also be exhibitions or “virtual” shows.

Course Format: This CASE course is limited to 20 students and combines hands-on work, article discussions, project presentations and a final project (educational activities, show, exhibitions). We will meet twice a week for about 1 period each. Students will be forming team of 2 to 3 students.

It is expected that the students meet outside the class time (via zoom) to prepare paper discussions and project presentations at least once a week. Team work is key in this course. Students should join the virtual class having done any required reading or preparation, and ready to engage on active learning activities.

Course goals:

Lesson Learning Goals:

Students will:

- Gain appreciation of intellectual diversity by learning about the Golden Ratio from multiple disciplines
- Develop skills in communicate knowledge through arts
- Increase confidence to take intellectual risks

- Practice ‘*academic consciousness*’ through engage in inclusive, respectful, and honest dialogs

Lesson Learning Objectives:

The successful student will complete this course with a variety of new knowledge and skills. By the end of the course, students will be able to:

- Understand basic concept of the Golden Ratio in Arts and Sciences
- Learn some of Leonardo’s uses of the Golden Ratio and also in other artists
- Understand the importance of Nature for our society
- Gain the ability to assess the current and potential use of biological design in our society and earth
- Be able to work together in a team in a respectful way

Prerequisites: As this course does not required any previous experience in art, science and education, basic concepts will be introduced but not particularly derived in the course, however students are encouraged to deepen in the topics of their interest as the course unfold and instructors will be here to guide them based on the instructors expertise.

Readings: Reading materials and media will be available on E-learning or freely available on the internet.

Grading (out of 100 pts):

10 Participation in class

10 Attendance join classes via zoom

10 Team-work etiquette

10 Quizzes (2 pts each, there will be short quizzes)

20 Leading Paper Discussions: Students will research and present to the class on a topic covered in the course

10 Co-creative classroom guided projects

10 Team Project Proposal

20 K-12 or general audience activity

Grade and associated percent ranges %

A 93-100; A- 90-92; B+ 88-89; B 83-87; B- 80-82; C+ 78-79; C 73-77; C- 70-72; D+ 68-69; D 63-67; D- 60-62; E <60

For information on current UF policies for assigning grade points, see <https://catalog.ufl.edu/ugrad/current/regulations/info/grades.aspx>

Participation: Class attendance is required and attendance points are earned by punctually joining the class via zoom. Participation points are earned by: 1) your participation at each class meetings, 2) your engagement in small group discussions during class. and included in your grade as participation. To receive full credit, you will need to come to class on time and well prepared (having done any required reading or assignment), actively participate throughout the discussion/activity, and follow any instructions specific to the activity.

Presentations: Presentations are an opportunity for students to deeply explore a particular topic and present the material to the class, gaining public speaking skills. Students will work in pairs.

Each participant will lead or co-lead a journal article discussion for the group.

Extra credit (no more than 5%)

You can discuss extra credit opportunities with your assigned member of our teaching team. Students are encouraged to suggest instructors for opportunities.

Examples are:

- 1) Collaborate in the developing of new outreach material to use during “*The ImportantANTS of Ants*” educational program. Students will meet with the team to develop and construct the educational material to be used during school visits.
- 2) More TBD.

Course outline (as of May 5, 2020) this is an outline and it is subject to change; changes will be posted on the course Canvas site.

Weeks	Dates	Class meeting, virtual field trips, presentations
1	T: July 7	Introduction to CASE and research projects General concepts of Golden Ratio – whole teaching team
	R: July 9	Golden Ratio in Maths – Marie de Gracia
		Participation during Virtual Museum Night at Harn “Art Olympics” TBD: 6pm to 9pm
2	T: July 14	Golden Ratio in Maths activity – Marie de Gracia and Julio Quinones
	R: July 16	Digitalization of biological specimens and Golden Ratio – Marina Ascunce
3	T: July 21	Virtual visit to the Florida Museum of Natural History and K-5 outreach science experience from Dr. Lopez Torres, Florida Museum of Natural History (guest lecture)
	R: July 23	Student lead article presentations about the Golden Ratio in Nature – Marina Ascunce
4	T: July 28	Virtual visit to the Florida Museum of Natural History and introduction as how to measure Golden Ratio using museum biological specimens – Patricia Perez and Julio Quinones
	R: July 30	Golden Ratio in Arts – Maria de Vecchi
5	T: August 4	Virtual visit to the Harn Museum of Art / Leonardo da Vinci his art and machines and Golden Ratio – Patricia Perez and Julio Quinones
	R: August 6	Use of Golden Ratio in Native American Art and Architecture – Maria de Vecchi
6	T: August 11	Measurement of Golden Ratio in Buildings – Julio Quinones and Patricia Perez
	R: August 13	Project Proposal Practices – Marina Ascunce
		Student present Activities/Arts/designs during Museum Night at Harn TBD: 6pm to 9pm
	TBD	Conduct Educational Activity K-12 or general audience

Attendance and Make-Up Work

Requirements for class attendance and make-up quizzes, assignments and other work are consistent with university policies that can be found at:

<https://catalog.ufl.edu/ugrad/current/regulations/info/attendance.aspx>.

Cell Phones

Students are expected to turn off - or put on silent - and put away all cell phones during class sessions.

Online Course Evaluation Process

Student assessment of instruction is an important part of efforts to improve teaching and learning. At the end of the semester, students are expected to provide feedback on the quality of instruction in this course using a standard set of university and college criteria. These evaluations are conducted online at <https://evaluations.ufl.edu>. We also will ask students to please complete pre-course and post-course surveys.

Academic Honesty

As a student at the University of Florida, you have committed yourself to uphold the Honor Code, which includes the following pledge: "We, the members of the University of Florida community, pledge to hold ourselves and our peers to the highest standards of honesty and integrity." You are expected to exhibit behavior consistent with this commitment to the UF academic community, and on all work submitted for credit at the University of Florida, the following pledge is either required or implied: "On my honor, I have neither given nor received unauthorized aid in doing this assignment." It is assumed that you will complete all work independently in each course unless the instructor provides explicit permission for you to collaborate on course tasks (e.g. assignments, papers, quizzes, exams). Furthermore, as part of your obligation to uphold the Honor Code, you should report any condition that facilitates academic misconduct to appropriate personnel. It is your individual responsibility to know and comply with all university policies and procedures regarding academic integrity and the Student Honor Code. Violations of the Honor Code at the University of Florida will not be tolerated. Violations will be reported to the Dean of Students Office for consideration of disciplinary action. For more information regarding the Student Honor Code, please see:

<http://www.dso.ufl.edu/sccr/process/student-conduct-honor-code>.

Accommodations for Students with Disabilities

The Disability Resource Center coordinates the needed accommodations of students with disabilities. This includes registering disabilities, recommending academic accommodations within the classroom, accessing special adaptive computer equipment, providing interpretation services and mediating faculty-student disability related issues. Students should first register with the Disability Resource Center at 0001 Reid Hall, 352-392-8565, www.dso.ufl.edu/drc/ and provide appropriate documentation.

UF Policy on Software Use

All faculty, staff and students of the university are required and expected to obey the laws and legal agreements governing software use. Failure to do so can lead to monetary damages and/or criminal penalties for the individual violator. Because such violations are also against university

policies and rules, disciplinary action will be taken as appropriate.

Campus helping resources: U Matter, We Care

At UF Every Gator Counts. U Matter, We Care serves as UF's umbrella program for UF's caring culture and provides students in distress with support and coordination of the wide variety of appropriate resources. Families, faculty, and students can contact umatter@ufl.edu seven days a week for assistance for students in distress.



The university's counseling resources are available for students experiencing personal problems that interfere with their general well-being and/or academic performance. The Counseling & Wellness Center provides confidential counseling services at no cost for students that are currently enrolled with the university.

- University Counseling & Wellness Center, 3190 Radio Road, 352-392-1575, www.counseling.ufl.edu/cwc/
 - Counseling Services
 - Groups and Workshops
 - Outreach and Consultation
 - Self-Help Library
 - Training Programs
 - Community Provider Database
- Career Resource Center, First Floor JWRU, 352-392-1601, www.crc.ufl.edu/

Student complaints

If there is an issue in the course, please bring it to the instructor's attention. UF policies about more serious complaints are described in these documents.

- Residential Course: https://www.dso.ufl.edu/documents/UF_Complaints_policy.pdf
- Online Course: <http://www.distance.ufl.edu/student-complaint-process>

UF Diversity Statement

The University of Florida is committed to creating a community that reflects the rich racial, cultural, and ethnic diversity of the state and nation. No challenge that exists in higher education has greater importance than the challenge of enrolling students and hiring faculty and staff who are members of our country's diverse groups. This pluralism enriches the university community, offers robust academic dialogues, and contributes to better teaching and research. The University

benefits from the richness of a multicultural student body, faculty, and staff who can learn from and support one another. Diversity and inclusion empower and inspire respect and understanding among us. Importantly, the University does not tolerate the actions of anyone who violates the rights of another person.

Through policy and practice, the university strives to embody a diverse and inclusive community, creating a university that truly reflects the greatness of our state and nation.

“Together we can accomplish academic excellence within our community, reflective of the rich culture and diversity of our state and nation.” President Fuchs

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