

Art 4642c
Digital Fabrication

M/W 8-10 (6:00 - 9:00 pm est)
FAC Room #306
3 credits

Instructor: Adrian Gonzalez

Office: FAC 317A

Office Hours: W 2:00-3:00 pm est or by appointment

Zoom Office hours link on canvas

Contact: gonzalezadrian@ufl.edu

TA: Kourosh Jeddi

Currently this class is being held in-person for students to fully get everything out of the studio environment, course, and materials. For the safety of the community, I urge and expect you all to stay masked even if you are vaccinated. Masking is about caring for loved ones, friends, and our collective. Please keep this in mind throughout the semester. Please take advantage of the free testing on campus regardless of your vaccination status.

Course Description

Artists are ever-evolving. They work to achieve conceptual and aesthetic goals by combining media to create work that defies classification and develops new genres from a wide variety of sources. Artists learn and use modern tools, including computers and the internet, to add to their practice.

Digital Fabrication is a hands-on art course for students to gain basic proficiency and get acquainted with multi-process software to translate objects, images, and concepts into tangible forms through digital fabrication machining. Students can expect to be introduced to, to learn, be creative, and work outside-the-box with Adobe Illustrator and Photoshop, Rhinoceros, Maya and a variety of other specialty programs.

The class will sometimes meet at the Infinity Fabrication Laboratory to get acquainted with the operation and maintenance of machines that will be used throughout the course including but not limited to laser cutters, 3D printers, CNC mill, and water-jet cutting. In addition to expanding our means and skills in production, this course also encourages individual and collaborative workflows to develop thinking, perceptions, doing, and a commitment to experimentation and invention in the artist studio.

Course Objectives

- To develop a basic understanding of digital modeling to create prototypes
- An understanding of the concept of translation between conceptual design and physical objects as it applies to art and digital fabrication.
- Develop a body work that is thoughtful, inspiring satisfying and soul nourishing
- Work using a process driven, iterative method for developing ideas and projects
- Cultivate strategies for making work where your ideas and interests are inextricably entwined with technique and material strategies.
- Cultivate ways to make your work more visible through language
- Generate new ideas
- Let your work speak many languages

Course Structure & Philosophy

The class is structured to introduce specific technical and conceptual information as well as allow time for tutorial and guidance, group discussion, and project development in class. The key components of the course are making, discovery, critical feedback, technical instruction, and open dialogue. The basic premise of the course is to think historically, conceptually, and technically about how objects are made – its method of construction, what information is visible or obscured, play, approaches to making, and material choices – and how it provides a narrative of intention and purpose with your artistic voice.

Class will consist of lectures, demonstrations, critiques, field trips, research, readings, discussions, and time for studio work and discovery. The class will include an examination of historical examples of diverse global practices and speculative projects by a range of artists and designers. Interdisciplinary studio combines in-depth analysis of the role of the physical object in diverse conceptual art practices with project-based experimentation using rapid prototyping and manufacturing technologies. Students will be expected to create a series of work with a conceptual framework developing a personal visual language.

This course is under the auspices of the field and discipline of *atelier*, workshop, so all encouragement is given to take advantage of the expertise of your instructor while considering traditional or alternate facilities. That said, overall, we'll embrace a democratic stance, learning from each other and being open to both new and traditional ways of thinking and working. The course will help guide your work and ideas to create an overlapping and complementary approach to the rest of your studio practice.

Expectations

Students are expected to engage actively in the studio. Successful students work on projects during and outside of class, complete readings and assignments on time and proactively source all necessary materials. They fully engage in individual art research by seeking out contemporary artists of interest and by attending lectures and art exhibitions. This class is dependent on a community of focused, curious, critical, and thoughtful students. Please make the most out of your experience by participating wholeheartedly, and cultivating community with your peers.

It is intended and expected that students will acquire new technical skills that can be applied to a variety of materials and ideas. Particular attention will be given the physical, associative, and generative possibilities of making. You are not expected to be able to complete all work during class hours! You should expect to work outside of class time a minimum of 6 hours each week.

Requirements

- Engaged participation in class
- Tenacity, in terms of studio work, research, maintenance and willingness to succeed.
- Documentation of all your work, both in progress, finished and presented formally.
- Drawings, sketches and models so that we can fully visualize your ideas and proposals in Are.na and a bound sketchbook.
- Terminal curiosity and questions to match.
- Readings as assigned
- Complete all assignments within the outlined timeframe

DCP Fabrication Lab (FABLAB) <https://fablab.arts.ufl.edu/>

Staff: Juan Griego: Director
Breanne Schenk: Assistant Director
Address: 978 SW 2nd Ave, Gainesville, FL 32601
Open: M-F 9am - 5pm (laser cutter open 24hrs after training)
Ph: 518-732-6012
Email: fablabhelp@dcf.ufl.edu

Texts

Required materials will be provided. Students are responsible for obtaining materials for independent projects. Required texts are available as pdfs in the readings folder under "Files" on Canvas.

Storage, software, saving

Data Storage

You are required to make digital backups and iterations of your project to avoid losing work. If your project is lost and you do not have a backup, you will still be held responsible for delivering the project in on time. There will be no exceptions. Computer failure, equipment malfunction, and file corruption are not accepted as excuses for late or unfinished work so back up your work.

This is extremely important. Establish a data storage method early in the class. The smartest thing to do is to use cloud storage (icloud, Dropbox etc.) that you periodically backup locally. Keep everything in the cloud and back it up locally.

Saving

Periodically changing the version number or date in the file name of your program (e.g. "ModelOfABigShoe.3dm") is a very wise idea, as you will be saving old versions that you can go back to if needed. You will also be saving a copy of your programming process, and all the things you have tried along the way.

After a few days your file list should look something like this:

ModelOfABigShoeJan17-2019.3dm

ModelOfABigShoeJan18-2019.3dm

ModelOfABigShoeJan19-2019.3dm

ModelOfABigShoeJan20-2019.3dm

Software

All of the software we will use will be provided on lab computers. If you wish to work at home rather than in the labs, it is your responsibility to acquire and install the software. Whatever the case, the university only supports the software in the labs and not any software on your own computer. If you want to acquire Rhino Cad for your own computer, be aware that we will be using Version 5, which is not the most current version.

Originality

Unless otherwise stated, all digital files and digitally fabricated objects included in your submitted work must have been produced by you, during the course of this class. Creative-commons or similarly

licensed 3D models in the Public Domain are the work of others; do not use them your work unless you have received specific permission to do so.

UF offers Gatorcloud to the university community where you can find collaboration services.

<https://cloud.it.ufl.edu/>

Assignments ----- Submit assignment files as: Lastname_Firstname_project1_2022.3dm

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Assignments will include creative projects, writing, research, presentations, drawings, and in class exercises. All must be submitted on time. Throughout the semester, students will have the opportunity to develop several projects engaging contemporary art topics and practices that are both collaborative and individual, as well as delve into self-directed interdisciplinary research. As artists and designers, you will be forever venturing into new and unknown territory. The ability to creatively respond and adapt to a variety of prompts is an essential skill, one we learn constantly from contemporary artists and designers. Projects should be ambitious, thoughtful, formally well presented, and completed on time.

Creative Projects

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Project #1 – Critique February 14

Project #3 – Critique March 16

Project #4 – Critique April 18

***Find project details on Canvas

Critique/Reviews

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Vital to the success of this class is a collective and individual willingness to share thoughts and opinions with each other, a commitment to openness and seeing things in new ways, and to respect for diversity of opinion, beliefs, values, heritage, orientation, etc. Civility and thoughtfulness are required. Hard work and integrity are expected. Active participation in discussions, critiques, and other group activities is mandatory. Participation, as part of your overall citizenship, is a graded component of this course.

At the end of each project there will be formal critique; it's likely that each will be a different format. Critiques will provide an opportunity to work through research, explain experimentation, and understand how your work is received by a public. It is a requirement of this course that you participate fully in these group conversations.

You will need a hard copy artist statement at the time of your critique and you will need to submit documentation of your project and artist statement on canvas within 24 hours of your crit.

Diversity and Inclusion

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Vital to the success of this class is a collective and individual willingness to share thoughts and opinions with each other, a commitment to openness and seeing things in new ways, and to respect for diversity of opinion, beliefs, values, heritage, race, orientation, etc. Civility and thoughtfulness and mutual respect

are prerequisites for deep learning. This course promotes the COTA and SA + AH general mission to create a more just, sustainable, humane, and beautiful world, and further supports a vigilant awareness of systemic racism. The class will host a diverse offering of artists, readings, and discussions, often challenging norms of representation that have omitted the voices, achievements, and agency of underrepresented people and ideas. Students are encouraged to bring the ideas, people, and resources that they are seeing and interacting with to the classroom.

Communication

Students are advised to use ufl.edu email for all UF course correspondence. It is best not to rely on canvas email, but email the instructor directly via Outlook. I usually respond within 24 hours: emails sent over the weekend may not receive a response until Monday. For emergencies call UF Police 352.392.1111 or 911.

E-learning on Canvas is where to find announcements, weekly calendar/due dates, assignment descriptions, course materials/readings, grading, and office hours/class, zoom links.

Materials and Supplies Fee

Although you will need to buy some basic supplies for this course, and materials specific to individual projects throughout the semester, it need not break the bank. Thrift stores, dumpsters, dollar stores, garage sales or flea markets are excellent sources for materials. Be resourceful.

Required Materials:

- Ear plugs and goggles
- USB flash drive, 2GB minimum, for storage and transfer of digital files
- Some materials for laser cutting such as paper, Plexiglas and Basswood, all available for purchase at the Infinity Fabrication Laboratory.
- Software: Photoshop, Illustrator, Rhinoceros (all available in the FAC 306 lab)
- Each student is charged a \$140 fab lab semester access fee

Attendance, Excused Absences and Emergencies

Studio attendance will be taken at the beginning of class. Lateness of more than 15 minutes or early departure is considered an absence (and habitual lateness of under 20 minutes will also affect your participation grade as every three times you are late counts as one absence). Participation including attendance, is 15% of your final grade, and will be reduced according to the structure below:

- 85-90% attendance = "Participation" Grade can be no higher than a "B."
- 75-85% attendance = "Participation" Grade can be no higher than a "C."
- 70% or less attendance will result in failure of the course.

For EXCUSED absences due to emergency, illness, court appearance, death in the family, or in order to observe a special religious holiday from affecting your attendance by emailing documentation of your excused absence (such as a doctor's note, or note from family) to the instructor. Regardless if an absence is excused or unexcused, you MUST be in dialogue with your instructor or a peer to keep pace with

course content, and arrange for alternate participation with any team or collaborative projects. Excused absences are updated twice a semester, along with your Participation Grade.

Please see University of Florida Attendance Policies and criteria for excused absences at:

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

UF Media Labs

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Never bring food or drinks into the lab, not even water. Class periods will always include breaks so you can step outside. Save your work onto a portable drive before logging off. Files left on lab computers will be erased without warning through an automated service. FAC 306 lab hours:

<http://plaza.ufl.edu/mchristo/306-schedule.html> UF Academic Technology lab hours:

<https://labs.at.ufl.edu/Hours.php>

Course Grading Criteria

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Your grade for the course is based on a holistic assessment of your engagement with the class. This includes the ambition and complexity of your work, how fully realized your projects are, and the degree to which you are able to fuse technical and conceptual skills. Grading will favor students who pace themselves, and don't wait until the last minute. Last minute projects, no matter how brilliant or compelling, will be discounted.

Below is a sample of how grading is calculated, but these categories are not fixed. In other words, each student will be assessed for a combination of effort, ambition, willingness to take risks, deliberative process and participation in the community of the class.

Grades for this course will be based on creative projects, reading reflections and discussions, and citizenship. You will be graded both on individual performance and in relation to your peers. You will receive a midterm and final grade. Grading criteria on creative projects will be based on students' evolution of finished prints, aesthetic concerns, craftsmanship, technical ability, conceptual rigor, inventiveness, risk-taking, adherence to consistency in idea, attentiveness to critique feedback.

15%: 150 pts - Attendance and citizenship. Citizenship includes participation, effort, community engagement, studio cleanliness with respect to equipment. For a full grade, participation is essential.

10%: 100 pts - Readings/Discussions/Reflections

These course components will be evaluated based on preparedness, relevance, and critical rigor. This includes class writing assignments.

10%: 100 pts - Sketchbooks

65%: 650 pts - Creative Projects

Creative projects will be evaluated on demonstrated creativity, innovation, effort, presentation, craft, and overall facility with course concepts and techniques. This Includes presentations.

Disclaimer: The instructor reserves the right to make modifications to this information throughout the semester.

Calendar/Course Outline

Week 1	
Jan 5th	W - One-minute introductions, facilities, syllabus, overview of semester, questionnaire exercise #1 - Learning to draw on Adobe Illustrator - assign Ai homework
Week 2	M - Fabrication Laboratory tour - Introduce Project #1, Questionnaire due
Jan 10/12	W - Meet with Adrian to discuss Project #1 proposals/Studio day
Week 3	M - MLK day - No class
Jan 17/19	W - Exercise #2 - Learning to draw on Rhino, documenting your work, check in with Adrian
Week 3	M - artist presentation sign up, studio day
Jan 24/26	W - studio day
Week 4	M - Demo and Exercise #3
Jan 31/Feb 2	W - Studio day, in-progress review
Week 5	M - introduce Project #2, Studio day
Feb 7/9	W - Studio day
Week 6	M - Critique Project #1
Feb 14/16	W - Exercise #4 - Learning Maya - assign Maya Homework
Week 7	M - Demo and Exercise #5 - 3D models
Feb 21/23	W - Studio day
Week 8	M - studio day, in-progress check in
Feb 28/Mar 2	W - Introduce Project #4/Studio day
Week 9	Spring Break
Mar 7/8	Spring Break
Week 10	M - Studio Day
Mar 14/16	W - Critique Project #2
Week 11	M - Demo and Exercise #6
Mar 21/23	W - Studio day
Week 12	M - TBD
Mar 28/30	W - Studio day
Week 13	M - TBD
Apr 4/6	W - In-progress review and Studio day
Week 14	M - Studio Day
Apr 11/13	W - Studio Day
Week 15	M - Critique Project #3
Apr 18/20	W - Last day of Class/ Clean up day/A PDF Portfolio due

Grading Scale

A 95-100, A- 94-90, B+ 89-87, B 86-84, B- 83-80, C+ 79-77, C 76-74, C- 73-70, D+ 69-67, D 66-64, D- 63-60, E 59-0
UF final grades and grading policies info:

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

A, A-: Superior work and effort. This grade level is for those who demonstrate and maintain strong creative concepts, intellectual curiosity, focused work ethic, and courage to push beyond safe limits. They work consistently and are engaged in outside research inherent to their studio practice facilitated by self-generated questions and critical thinking. They actively participate in critiques and seminars, and show a high level of independence, professionalism, and motivation facilitating the studio community and their education.

B+, B, B-: Very good work and effort. This grade implies above average work, participation/citizenship and demonstrates an effort beyond expectations to discover in the process of developing a solid studio practice. The B student works hard but struggles some with productivity and analysis of studio work in context; or has good conceptual goals but does not put forth substantial skill/effort to communicate them effectively. The B range student may be doing minimal outside research to develop ideas but makes use of the faculty/peer suggestions and dialogue.

C+, C, C-: Average work and effort. This grade indicates good attendance, completion of ideas, and some extra work. Adequate time spent in the studio. The C student struggles with resolving projects in a coherent manner, or may struggle with the development of a consistent and rigorous studio practice. Their participation and initiative in critique settings and seminars is minimal, and they often fail to initiate peer/faculty feedback.

D+, D, D-: Unsatisfactory work. Often, these grades are earned through poor attendance, late work or not following directions.

E: Failure to meet all criteria of assignment accompanied by unacceptable studio practice.

Project Rubric

Criteria:

1. **Ambition + Effort**
Engagement in studio practice, active research, evidence that the artist is pushing their process forward in concept, craft, scale or process.
2. **Creativity + Innovation**
Originality of approach: demonstration of capacity to creatively solve conceptual, material and formal challenges in the work.
3. **Attention to Assignment + Collaboration**
Consideration of assignment parameters-- commitment to collaboration within the work.
4. **Craft**
5. Construction of work/attention to detail
6. **Presentation/Display/Documentation**
Consideration of the viewer and how the work is presented relative to all of the above.
7. **Total Average Grade**
Process + Product

Late Work Policy

Work submitted any time after the due date will be graded down one letter grade per class meeting. An assignment more than 3 days late will receive an E. Any assignments not completed by the end of the semester will result in course failure. No work resubmission will be accepted. Policy for make-up work assignments: If due to circumstances beyond your control: severe medical emergencies, family matters which demand your not attending class etc. I will work with you to arrive at an equitable solution for make-up and completion of the course assignments.

Course Evaluations

Students are expected to provide professional and respectful feedback on the quality of instruction in this course by completing course evaluations online via GatorEvals. Guidance on how to give feedback in a professional and respectful manner is available at <https://gatorevals.aa.ufl.edu/students/>. Students will be notified when the evaluation period opens, typically during the last two or three weeks of the semester, but students will be given specific times when they are open. and can complete evaluations through the email they receive from GatorEvals, in their Canvas course menu under GatorEvals, or via <https://ufl.bluer.com/ufl/>. Summaries of course evaluation results are available to students at <https://gatorevals.aa.ufl.edu/public-results/>.

Covid-19 Statement

If you are feeling well, have covid-19 symptoms, have been around or exposed to anyone who has tested positive, you or someone you have been in a precarious covid situation, or are not cleared for campus do not come to class. If you are sick, stay home and self-quarantine. Please visit the UF Health Screen, Test & Protect website about next steps, retake the questionnaire and schedule your test for no sooner than 24 hours after your symptoms began. Use your best judgement, be safe and help stop the spread of Covis-19. Please email or communicate on Microsoft teams with your instructor if you cannot attend class because of these situations.

COVID-19 Precautions From University

In response to COVID-19, the following practices are in place to maintain your learning environment, to enhance the safety of our in-classroom interactions, and to further the health and safety of ourselves, our neighbors, and our loved ones.

If you are not vaccinated, get vaccinated. Vaccines are readily available at no cost and have been demonstrated to be safe and effective against the COVID-19 virus. Visit this link for details on where to get your shot, including options that do not require an appointment: <https://coronavirus.ufhealth.org/vaccinations/vaccine-availability/>. Students who receive the first dose of the vaccine somewhere off-campus and/or outside of Gainesville can still receive their second dose on campus.

You are expected to wear approved face coverings at all times during class and within buildings even if you are vaccinated. Please continue to follow healthy habits, including best practices like frequent hand washing. Following these practices is our responsibility as Gators.

Sanitizing supplies are available in the classroom if you wish to wipe down your desks prior to sitting down and at the end of the class. Hand sanitizing stations will be located in every classroom.

If you are sick, stay home and self-quarantine. Please visit the UF Health Screen, Test & Protect website about next steps, retake the questionnaire and schedule your test for no sooner than 24 hours after your symptoms began. Please call your primary care provider if you are ill and need immediate care or the UF Student Health Care Center at 352-392-1161 (or email covid@shcc.ufl.edu) to be evaluated for testing and to receive further instructions about returning to campus. UF Health Screen, Test & Protect offers guidance when you are sick, have been exposed to someone who has tested positive or have tested positive yourself. Visit the UF Health Screen, Test & Protect website for more information.

Course materials will be provided to you with an excused absence, and you will be given a reasonable amount of time to make up work.

If you are withheld from campus by the Department of Health through Screen, Test & Protect you are not permitted to use any on campus facilities. Students attempting to attend campus activities when withheld from campus will be referred to the Dean of Students Office.

Continue to regularly visit coronavirus.UFHealth.org and coronavirus.ufl.edu for up-to-date information about COVID-19 and vaccination.

Disability Resource Center

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Having a disability is not a barrier to making phenomenal art: but we do need to know what you are negotiating to properly support your process. If you have any limitations or documented learning disabilities, please let us know immediately. This includes language limitations, physical illness, limitations or disabilities, including invisible disabilities such as chronic disease, learning disabilities, head injuries or diagnosed attention deficit disorders—we want to help make this class a positive experience for you from the beginning. Students requesting accommodations must first register with the Dean of Students Office, Disability Resource Center (352) 392-8565, www.dso.ufl.edu/drc/. The student will receive documentation to present to the professor. Please upload your DRC memo to the course Canvas as soon as possible.

In-Class Recording

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Students are allowed to record video or audio of class lectures. However, the purposes for which these recordings may be used are strictly controlled. The only allowable purposes are (1) for personal educational use, (2) in connection with a complaint to the university, or (3) as evidence in, or in preparation for, a criminal or civil proceeding. All other purposes are prohibited. Specifically, students may not publish recorded lectures without the written consent of the instructor.

UF Policies:

UF Philosophy

UF encourages the intellectual and personal growth of its students as scholars and citizens. As an educational institution, the University recognizes that the transmission of knowledge, the pursuit of truth, and the development of individuals require the free exchange of ideas, self-expression, and the

challenging of beliefs and customs. In order to maintain an environment where these goals can be achieved safely and equitably, the University promotes civility, respect and integrity among all members of the community. As stated in the Standard of Ethical Conduct, students are expected to exhibit high standards of behavior and concern for others.

Academic Honesty Policy

As a result of completing the registration form at UF, every student has signed the following statement: "I understand that the University of Florida expects its students to be honest in all of their academic endeavors and understand that my failure to comply with this commitment may result in disciplinary action up to and including expulsion from the University." The Honor Code (<http://www.dso.ufl.edu/sccr/process/student-conduct-honor-code/>) specifies dishonest behaviors and possible sanctions.

Understand that the University of Florida expects its students to be honest in all of their academic work. Please adhere to this commitment to academic honesty and understand that failure comply with this commitment may result in disciplinary action, up to, and including, expulsion from the University. As artists, we might work in a style commonly known as "appropriation," but it is common courtesy to cite your sources, even when working in a non-written form. Include the names and artwork titles of any work you cite in your projects.

Disruptive Behavior

Any member of the UF community who acts intentionally to impair, interfere with, or obstruct the mission, purposes, order, operations, processes, and functions of the University shall be subject to appropriate disciplinary action by University authorities for misconduct, as set forth in the applicable rules of the Board of Regents and the University and state law governing such actions. Be advised that you will be dismissed from class if you engage in disruptive behavior.

Health and Safety Guidelines

The School of Art + Art History Health and Safety Policy handbook provides policy and training for health and safety. Students must follow handbook policies, receive proper training, and sign the signature page, no later than the third class meeting. Please make yourself familiar with the SA+AH Health and Safety Program at:

<https://arts.ufl.edu/site/assets/files/37319/saahhealthandsafetyhandbook.pdf>

Campus Resources:

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Health and Wellness

U Matter, We Care:

If you or someone you know is in distress, please contact umatter@ufl.edu, 352-392-1575, or visit U Matter, We Care website to refer or report a concern and a team member will reach out to the student in distress.

Counseling and Wellness Center: Visit the Counseling and Wellness Center website or call 352-392-1575 for information on crisis services as well as non-crisis services.

Student Health Care Center:

Call 352-392-1161 for 24/7 information to help you find the care you need, or visit the Student Health Care Center website.

University Police Department:

Visit UF Police Department website or
call 352-392-1111 (or 9-1-1 for emergencies).

UF Health Shands Emergency Room / Trauma Center:

For immediate medical care call 352-733-0111 or go to the emergency room at 1515 SW Archer Road, Gainesville, FL 32608; Visit the UF Health Emergency Room and Trauma Center website.

GatorWell Health Promotion Services:

For prevention services focused on optimal wellbeing, including Wellness Coaching for Academic Success, visit the GatorWell website or call 352-273-4450.

Academic Resources

E-learning technical support:

Contact the UF Computing Help Desk at 352-392-4357 or via e-mail at helpdesk@ufl.edu.

Career Connections Center:

Reitz Union Suite 1300, 352-392-1601. Career assistance and counseling services.

Library Support:

Various ways to receive assistance with respect to using the libraries or finding resources.

Teaching Center: Broward Hall, 352-392-2010 or to make an appointment 352-392-6420. General study skills and tutoring.

Writing Studio:

2215 Turlington Hall, 352-846 1138. Help brainstorming, formatting, and writing papers.

Student Complaints On-Campus:

Visit the Student Honor Code and Student Conduct Code webpage for more information.

On-Line Students Complaints:

View the Distance Learning Student Complaint Process.