Cover Sheet: Request 15222

CNT 4XXX Multimedia Networking Principles

Info	
Process	Course New Ugrad/Pro
Status	Pending at PV - University Curriculum Committee (UCC)
Submitter	Jonathan Kavalan clliu@ufl.edu
Created	8/19/2020 2:51:06 PM
Updated	10/9/2020 11:26:28 AM
Description of	A new course proposed for undergraduate students who will focus on networking track
request	

Actions

Step	Status	Group	User	Comment	Updated		
Department	Approved	ENG - Computer and Information Science and Engineering 19140000	Christina Gardner-McCune		9/25/2020		
	No document changes						
College	Approved	ENG - College of Engineering	Heidi Dublin	Approved by Curriculum Committee and Faculty Council.	10/9/2020		
CNT_MNP3.pd	f				10/4/2020		
University Curriculum Committee	Pending	PV - University Curriculum Committee (UCC)			10/9/2020		
No document c	hanges						
Statewide Course Numbering System							
No document c	hanges						
Office of the Registrar							
No document c	hanges				1		
Student Academic Support System							
No document c	No document changes						
Catalog							
No document changes							
College Notified							
No document c	hanges						

Course|New for request 15222

Info

Request: CNT 4XXX Multimedia Networking Principles Description of request: A new course proposed for undergraduate students who will focus on networking track Submitter: Jonathan Kavalan clliu@ufl.edu Created: 10/4/2020 2:44:00 PM Form version: 4

Responses

Recommended Prefix

Enter the three letter code indicating placement of course within the discipline (e.g., POS, ATR, ENC). Note that for new course proposals, the State Common Numbering System (SCNS) may assign a different prefix.

Response: CNT

Course Level

Select the one digit code preceding the course number that indicates the course level at which the course is taught (e.g., 1=freshman, 2=sophomore, etc.).

Response:

4

Course Number

Enter the three digit code indicating the specific content of the course based on the SCNS taxonomy and course equivalency profiles. For new course requests, this may be XXX until SCNS assigns an appropriate number.

Response: XXX

Category of Instruction

Indicate whether the course is introductory, intermediate or advanced. Introductory courses are those that require no prerequisites and are general in nature. Intermediate courses require some prior preparation in a related area. Advanced courses require specific competencies or knowledge relevant to the topic prior to enrollment.

Response: Advanced

- 1000 level = Introductory undergraduate
- 2000 level = Introductory undergraduate
- 3000 level = Intermediate undergraduate
- 4000 level = Advanced undergraduate
- 5000 level = Introductory graduate
- 6000 level = Intermediate graduate
- 7000 level = Advanced graduate
- 4000/5000= Joint undergraduate/graduate
- 4000/6000= Joint undergraduate/graduate

*Joint undergraduate/graduate courses must be approved by the UCC and the Graduate Council)

Lab Code

Enter the lab code to indicate whether the course is lecture only (None), lab only (L), or a combined lecture and lab (C).

Response: None

Course Title

Enter the title of the course as it should appear in the Academic Catalog. There is a 100 character limit for course titles.

Response: Multimedia Networking Principles

Transcript Title

Enter the title that will appear in the transcript and the schedule of courses. Note that this must be limited to 30 characters (including spaces and punctuation).

Response: Multimedia Network Principles

Degree Type Select the type of degree program for which this course is intended.

Response: Baccalaureate

Delivery Method(s)

Indicate all platforms through which the course is currently planned to be delivered.

Response: On-Campus

Co-Listing

Will this course be jointly taught to undergraduate, graduate, and/or professional students?

Response: No

Effective Term

Select the requested term that the course will first be offered. Selecting "Earliest" will allow the course to be active in the earliest term after SCNS approval. If a specific term and year are selected, this should reflect the department's best projection. Courses cannot be implemented retroactively, and therefore the actual effective term cannot be prior to SCNS approval, which must be obtained prior to the first day of classes for the effective term. SCNS approval typically requires 2 to 6 weeks after approval of the course at UF. Response: Fall

Effective Year

Select the requested year that the course will first be offered. See preceding item for further information.

Response: 2021

Rotating Topic?

Select "Yes" if the course can have rotating (varying) topics. These course titles can vary by topic in the Schedule of Courses.

Response: No

Repeatable Credit?

Select "Yes" if the course may be repeated for credit. If the course will also have rotating topics, be sure to indicate this in the question above.

Response: No

Amount of Credit

Select the number of credits awarded to the student upon successful completion, or select "Variable" if the course will be offered with variable credit and then indicate the minimum and maximum credits per section. Note that credit hours are regulated by Rule 6A-10.033, FAC. If you select "Variable" for the amount of credit, additional fields will appear in which to indicate the minimum and maximum number of total credits.

Response: 3

S/U Only?

Select "Yes" if all students should be graded as S/U in the course. Note that each course must be entered into the UF curriculum inventory as either letter-graded or S/U. A course may not have both options. However, letter-graded courses allow students to take the course S/U with instructor permission.

Response: No

Contact Type

Select the best option to describe course contact type. This selection determines whether base hours or headcount hours will be used to determine the total contact hours per credit hour. Note that the headcount hour options are for courses that involve contact between the student and the professor on an individual basis.

Response:

Regularly Scheduled

- Regularly Scheduled [base hr]
- Thesis/Dissertation Supervision [1.0 headcount hr]
- Directed Individual Studies [0.5 headcount hr]
- Supervision of Student Interns [0.8 headcount hr]
- Supervision of Teaching/Research [0.5 headcount hr]
- Supervision of Cooperative Education [0.8 headcount hr]

Contact the Office of Institutional Planning and Research (352-392-0456) with questions regarding contact type.

Weekly Contact Hours

Indicate the number of hours instructors will have contact with students each week on average throughout the duration of the course.

Response: 3

Course Description

Provide a brief narrative description of the course content. This description will be published in the Academic Catalog and is limited to 500 characters or less. See course description guidelines.

Response:

Design and analysis of multimedia networking. Major effort is devoted on multimedia elements, and their impact on higher-level protocols at the application- and transport-layer

Prerequisites

Indicate all requirements that must be satisfied prior to enrollment in the course. Prerequisites will be automatically checked for each student attempting to register for the course. The prerequisite will be published in the Academic Catalog and must be formulated so that it can be enforced in the registration system. Please note that upper division courses (i.e., intermediate or advanced level of instruction) must have proper prerequisites to target the appropriate audience for the course.

Courses level 3000 and above must have a prerequisite.

Please verify that any prerequisite courses listed are active courses.

Response: CNT 4007(C)

Completing Prerequisites on UCC forms:

• Use "&" and "or" to conjoin multiple requirements; do not used commas, semicolons, etc.

• Use parentheses to specify groupings in multiple requirements.

• Specifying a course prerequisite (without specifying a grade) assumes the required passing grade is D-. In order to specify a different grade, include the grade in parentheses immediately after the course number. For example, "MAC 2311(B)" indicates that students are required to obtain a grade of B in Calculus I. MAC2311 by itself would only require a grade of D-.

Specify all majors or minors included (if all majors in a college are acceptable the college code is sufficient).

"Permission of department" is always an option so it should not be included in any prerequisite or co-requisite.
If the course prerequisite should list a specific major and/or minor, please provide the plan code for that major/minor (e.g., undergraduate Chemistry major = CHY_BS, undergraduate Disabilities in Society minor = DIS_UMN)

Example: A grade of C in HSC 3502, passing grades in HSC 3057 or HSC 4558, and undergraduate PBH student should be written as follows: HSC 3502(C) & (HSC 3057 or HSC 4558) & UGPBH & https://www.analysis.com/analys

Co-requisites

Indicate all requirements that must be taken concurrently with the course. Co-requisites are not checked by the registration system. If there are none please enter N/A.

Response: N/A

Rationale and Placement in Curriculum

Explain the rationale for offering the course and its place in the curriculum.

Response:

Given the rapid development of Internet, CISE Department faculty agreed we should have a focused track on networking for undergraduate students. Currently there is only CNT4007 (Computer Network Fundamentals) for undergraduate students, therefore this proposed course serves as the one of the next networking undergraduate courses. Network faculty group also agreed Fall Semester 2021 will be a good starting semester for undergraduate students.

Providing the integrated processing and delivery of multimedia elements (beyond traditional text information) via networking is important in today's Internet era. Graphics, images, animation, audio and video combined produce the systems or platforms to increase the productivity and improve the society. This course introduces the knowledge on multimedia elements for their characteristics and requirements. Software technologies in application- and transport-layer protocols will be covered to address the performance and scalability issues.

Course Objectives

Describe the core knowledge and skills that student should derive from the course. The objectives should be both observable and measurable.

Response:

Students will be able to accomplish the following objectives by the end of the course:

(1) understand different data elements, which include text, graphics, audio, video and combinations,

(2) understand the principles of audio and visual communication via streaming over networks,

(3) design and analysis of streaming protocols including performance measurement and enhancement,

(4) explore issues on scalability, quality of service and quality of experience.

Course Textbook(s) and/or Other Assigned Reading

Enter the title, author(s) and publication date of textbooks and/or readings that will be assigned. Please provide specific examples to evaluate the course and identify required textbooks.

Response:

(A) "Multimedia Fundamentals: Media Coding and Content Processing" by R. Steinmetz and K. Nahrstedt, Vol. 1, Latest Edition, Practice Hall.

(B) "Computer Networking: A Top-Down Approach Featuring the Internet", by J. Kurose and K. Ross, 5th/6th/7th Edition, Addison Wesley.

(C) Lecture Notes provided by the instructor.

Weekly Schedule of Topics

Provide a projected weekly schedule of topics. This should have sufficient detail to evaluate how the course would meet current curricular needs and the extent to which it overlaps with existing courses at UF.

Response: Week 1: Introduction / Chapter 1 & 2 of Book(A) / HW#1 (on multimedia elements and characteristics) Out Week 2: Audio & Speech / Chapter 3 of Book(A) / HW#1 Due Week 3: Graphic & Animation /Chapter 4 & 5 of Book(A) / HW#2 (on audio, speech and animation) Out Week 4: Compression / Chapter 6 of Book(A) / HW#2 Due MPEG / Chapter 6 of Book(A) / Programming Project#1 (on encoding of JPEG/MPEG) Week 5: Out Week 6: Application Layer / Chapter 2 of Book(B) / HW#3 (on networking essentials) Out Week 7: Transport layer / Chapter 3 of Book(B) / HW#3 Due & Programming Project#1 Due Week 8: Streaming for Audio & Video / Lecture Notes / HW#4 (on TCP/UDP/RTP) Out & Programming Project#2 (on decoding of JPEG/MPEG) Out Week 9: Scalability#1: Concurrent Accesses / Lecture Notes / HW#4 Dues Week 10: Review / Covered Chapters and Notes / Programming Project#2 Due / Midterm Exam Week 11: Scalability#2: Bandwidth-Delay Products / Lecture Notes / Programming Project#3 (on client-server programming of a streaming video) Out Week 12: Scalability#3: Fault Tolerance / Lecture Notes / Programming Project#3 Due Week 13: Quality of Service / Lecture Notes / Programming Project#4 (on multiple video streams) Out Week 14: Quality of Experience / Lecture Notes / Programming Project#4 Due

Week 15: All Topics / ALL Covered Chapters & Notes / No Assignment or Project / Final Exam

Grading Scheme

List the types of assessments, assignments and other activities that will be used to determine the course grade, and the percentage contribution from each. This list should have sufficient detail to evaluate the course rigor and grade integrity. Include details about the grading rubric and percentage breakdowns for determining grades. If participation and/or attendance are part of the students grade, please provide a rubric or details regarding how those items will be assessed.

Response: Assignment

Total Points

Percentage of Final Grade

Homeworks (4) 100 each

20% Programming Projects (4) 100 each 40% Midterm Exam 100 20% Final Exam 100 20% Letter grades will be decided as the following breakups: Percent Grade Grade Points 90.0 - 100.0 А 4.00 87.0 - 89.9 A-3.67 84.0 - 86.9 B+ 3.33 81.0 - 83.9B 3.00 78.0 - 80.9 B-2.67 75.0 - 79.9 C+ 2.33 72.0 – 74.9C 2.00 69.0 - 71.9 C-1.67 66.0 - 68.9 D+ 1.33 63.0 - 65.9 D 1.00 60.0 - 62.9 D-0.67 0 - 59.9 Е 0.00

Instructor(s)

Enter the name of the planned instructor or instructors, or "to be determined" if instructors are not yet identified.

Response: Jonathan Kavalan, PhD

Attendance & Make-up

Please confirm that you have read and understand the University of Florida Attendance policy. A required statement statement related to class attendance, make-up exams and other work will be included in the syllabus and adhered to in the course. Courses may not have any policies which conflict with the University of Florida policy. The following statement may be used directly in the syllabus.

• Requirements for class attendance and make-up exams, assignments, and other work in this course are consistent with university policies that can be found at: https://catalog.ufl.edu/ugrad/current/regulations/info/attendance.aspx

Response: Yes

Accomodations

Please confirm that you have read and understand the University of Florida Accommodations policy. A statement related to accommodations for students with disabilities will be included in the syllabus and adhered to in the course. The following statement may be used directly in the syllabus:

• Students with disabilities requesting accommodations should first register with the Disability Resource Center (352-392-8565, www.dso.ufl.edu/drc/) by providing appropriate documentation. Once registered, students will receive an accommodation letter which must be presented to the instructor when requesting accommodation. Students with disabilities should follow this procedure as early as possible in the semester.

Response: Yes

UF Grading Policies for assigning Grade Points

Please confirm that you have read and understand the University of Florida Grading policies. Information on current UF grading policies for assigning grade points is require to be included in the course syllabus. The following link may be used directly in the syllabus:

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

Response: Yes

Course Evaluation Policy

Course Evaluation Policy

Please confirm that you have read and understand the University of Florida Course Evaluation Policy. A statement related to course evaluations will be included in the syllabus. The following statement may be used directly in the syllabus:

• 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 <u>https://gatorevals.aa.ufl.edu/public-results/</u>. Students will be notified when the evaluation period opens, and can complete evaluations through the email they receive from GatorEvals, in their Canvas course menu under GatorEvals, or via https://ufl.bluera.com/ufl/. Summaries of course evaluation results are available to students at https://ufl.bluera.com/ufl/. Summaries of course evaluation results are available to students at <a href="https://gatorevals.aa.ufl.edu/public-results/.

Response: Yes

Multimedia Networking Principles

CNT4XXX Section: XXXX Class Periods: 12:50PM-1:40PM MWF Location: To be determined Academic Term: Fall 2021

Instructor:

Name: To be determined <u>Email Address: To be determined</u> Office Phone Number: To be determined Office Hours: To be determined

Teaching Assistants:

Please contact through the Canvas website

- Name of TA, email address, office location, office hours
- Name of TA, email address, office location, office hours

Course Description

Design and analysis of multimedia networking. Major effort is devoted on multimedia elements, and their impact on higher-level protocols at the application- and transport-layer

Course Pre-Requisites

CNT 4007 (Computer Network Fundamentals)

Course Objectives

Students will be able to accomplish the following objectives by the end of the course:

- (1) understand different data elements, which include text, graphics, audio, video and combinations,
- (2) understand the principles of audio and visual communication via streaming over networks,
- (3) design and analysis of streaming protocols including performance measurement and enhancement,
- (4) explore issues on scalability, quality of service and quality of experience.

Materials and Supply Fees

N/A

Required Textbooks and Software

- (A) "Multimedia Fundamentals: Media Coding and Content Processing" by R. Steinmetz and K. Nahrstedt, Vol. 1, Latest Edition, Practice Hall.
- (B) "Computer Networking: A Top-Down Approach Featuring the Internet", by J. Kurose and K. Ross, 5th/ 6th/7th Edition, Addison Wesley.
- (C) Lecture Notes provided by the instructor.

Recommended Materials

• N/A

Course Schedule

Week 1:	Introduction / Chapter 1 & 2 of Book(A) / HW#1 (on multimedia elements and characteristics) Out
Week 2:	Audio & Speech / Chapter 3 of Book(A) / HW#1 Due
Week 3:	Graphic & Animation /Chapter 4 & 5 of Book(A) / HW#2 (on audio, speech and animation) Out
Week 4:	Compression / Chapter 6 of Book(A) / HW#2 Due
Week 5:	MPEG / Chapter 6 of Book(A) / Programming Project#1 (on encoding of JPEG/MPEG) Out
Week 6:	Application Layer / Chapter 2 of Book(B) / HW#3 (on networking essentials) Out
Week 7:	Transport layer / Chapter 3 of Book(B) / HW#3 Due & Programming Project#1 Due

Week 8: Streaming for Audio & Video / Lecture Notes / HW#4 (on TCP/UDP/RTP) Out & Programming Project#2 (on decoding of JPEG/MPEG) Out

Week 9: Scalability#1: Concurrent Accesses / Lecture Notes / HW#4 Dues

Week 10: Review / Covered Chapters and Notes / Programming Project#2 Due / Midterm Exam

Week 11: Scalability#2: Bandwidth-Delay Products / Lecture Notes / Programming Project#3 (on client-server programming of a streaming video) Out

Week 12: Scalability#3: Fault Tolerance / Lecture Notes / Programming Project#3 Due

Week 13: Quality of Service / Lecture Notes / Programming Project#4 (on multiple video streams) Out

Week 14: Quality of Experience / Lecture Notes / Programming Project#4 Due

Week 15: All Topics / ALL Covered Chapters & Notes / No Assignment or Project / Final Exam

F2F Course Policy in Response to COVID-19

We will have face-to-face instructional sessions to accomplish the student learning objectives of this course. In response to COVID-19, the following policies and requirements are in place to maintain your learning environment and to enhance the safety of our in-classroom interactions.

- You are required to wear approved face coverings at all times during class and within buildings. Following and enforcing these policies and requirements are all of our responsibility. Failure to do so will lead to a report to the Office of Student Conduct and Conflict Resolution.
- This course has been assigned a physical classroom with enough capacity to maintain physical distancing (6 feet between individuals) requirements. Please utilize designated seats and maintain appropriate spacing between students. Please do not move desks or stations.
- 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.
- Follow your instructor's guidance on how to enter and exit the classroom. Practice physical distancing to the extent possible when entering and exiting the classroom.
- If you are experiencing COVID-19 symptoms (Click here for guidance from the CDC on symptoms of coronavirus), please use the UF Health screening system and follow the instructions on whether you are able to attend class. Click here for UF Health guidance on what to do if you have been exposed to or are experiencing Covid-19 symptoms.
- 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. Find more information in the university attendance policies.

Attendance Policy, Class Expectations, and Make-Up Policy

Regular attendance is encouraged but not required, since lecture slides will be posted afterwards via Canvas elearning system.

Excused absences must be consistent with university policies and require appropriate documentation. Additional information can be found here: <u>https://catalog.ufl.edu/ugrad/current/regulations/info/attendance.aspx</u>

Cell phone is required to be in the silent mode, and students are encouraged to use laptop computer for taking lecture notes only.

All assignments, projects and exams will be due according to the published deadlines. No late assignments, projects and exams are accepted unless the excused absences are documented and reported according to the above university policies.

Evaluation of Grades

Assignment	Total Points	Percentage of Final Grade	
Homeworks (4)	100 each	20%	
Programming Projects (4)	100 each	40%	
Midterm Exam	100	20%	
Final Exam	100	20%	
		100%	

Grading Policy

Percent	Grade	Grade Points
90.0 - 100.0	A	4.00
87.0 - 89.9	A-	3.67
84.0 - 86.9	B+	3.33
81.0 - 83.9	В	3.00
78.0 - 80.9	В-	2.67
75.0 - 79.9	C+	2.33
72.0 - 74.9	С	2.00
69.0 - 71.9	C-	1.67
66.0 - 68.9	D+	1.33
63.0 - 65.9	D	1.00
60.0 - 62.9	D-	0.67
0 - 59.9	E	0.00

More information on UF grading policy may be found at: <u>https://catalog.ufl.edu/ugrad/current/regulations/info/grades.aspx</u>

Students Requiring Accommodations

Students with disabilities who experience learning barriers and would like to request academic accommodations should connect with the disability Resource Center by visiting <u>https://disability.ufl.edu/students/get-started/</u>. It is important for students to share their accommodation letter with their instructor and discuss their access needs, as early as possible in the semester.

Multimedia Networking Principles, CNT4XXX

Course Evaluation

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, and can complete evaluations through the email they receive from GatorEvals, in their Canvas course menu under GatorEvals, or via https://ufl.bluera.com/ufl/. Summaries of course evaluation results are available to students at https://ufl.bluera.com/ufl/.

University Honesty Policy

UF students are bound by The Honor Pledge which states, "We, the members of the University of Florida community, pledge to hold ourselves and our peers to the highest standards of honor and integrity by abiding by the Honor Code. On all work submitted for credit by students 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." The Honor Code (<u>https://sccr.dso.ufl.edu/policies/student-honor-code-student-conduct-code/</u>) specifies a number of behaviors that are in violation of this code and the possible sanctions. Furthermore, you are obligated to report any condition that facilitates academic misconduct to appropriate personnel. If you have any questions or concerns, please consult with the instructor or TAs in this class.

Commitment to a Safe and Inclusive Learning Environment

The Herbert Wertheim College of Engineering values broad diversity within our community and is committed to individual and group empowerment, inclusion, and the elimination of discrimination. It is expected that every person in this class will treat one another with dignity and respect regardless of gender, sexuality, disability, age, so-cioeconomic status, ethnicity, race, and culture.

If you feel like your performance in class is being impacted by discrimination or harassment of any kind, please contact your instructor or any of the following:

- Your academic advisor or Graduate Program Coordinator
- Robin Bielling, Director of Human Resources, 352-392-0903, rbielling@eng.ufl.edu
- Curtis Taylor, Associate Dean of Student Affairs, 352-392-2177, taylor@eng.ufl.edu
- Toshikazu Nishida, Associate Dean of Academic Affairs, 352-392-0943, nishida@eng.ufl.edu

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. We, the members of the University of Florida community, pledge to uphold ourselves and our peers to the highest standards of honesty and integrity.

Student Privacy

There are federal laws protecting your privacy with regards to grades earned in courses and on individual assignments. For more information, please see: <u>http://registrar.ufl.edu/catalog0910/policies/regulationferpa.html</u>

Campus Resources:

<u>Health and Wellness</u>

U Matter, We Care:

Your well-being is important to the University of Florida. The U Matter, We Care initiative is committed to creating a culture of care on our campus by encouraging members of our community to look out for one another and to reach out for help if a member of our community is in need. If you or a friend is in distress, please contact <u>umatter@ufl.edu</u> so that the U Matter, We Care Team can reach out to the student in distress. A nighttime and weekend crisis counselor is available by phone at 352-392-1575. The U Matter, We Care Team can help connect students to the many other helping resources available including, but not limited to, Victim Advocates, Housing staff, and the Counseling and Wellness Center. Please remember that asking for help is a sign of strength. In case of emergency, call 9-1-1.

Counseling and Wellness Center: <u>http://www.counseling.ufl.edu/cwc</u>, and 392-1575; and the University Police Department: 392-1111 or 9-1-1 for emergencies.

Sexual Discrimination, Harassment, Assault, or Violence

If you or a friend has been subjected to sexual discrimination, sexual harassment, sexual assault, or violence contact the <u>Office of Title IX Compliance</u>, located at Yon Hall Room 427, 1908 Stadium Road, (352) 273-1094, <u>title-ix@ufl.edu</u>

Sexual Assault Recovery Services (SARS)

Student Health Care Center, 392-1161.

University Police Department at 392-1111 (or 9-1-1 for emergencies), or http://www.police.ufl.edu/.

Academic Resources

E-learning technical support, 352-392-4357 (select option 2) or e-mail to Learning-support@ufl.edu. <u>https://lss.at.ufl.edu/help.shtml</u>.

Career Resource Center, Reitz Union, 392-1601. Career assistance and counseling. <u>https://www.crc.ufl.edu/</u>.

Library Support, <u>http://cms.uflib.ufl.edu/ask</u>. Various ways to receive assistance with respect to using the libraries or finding resources.

Teaching Center, Broward Hall, 392-2010 or 392-6420. General study skills and tutoring. <u>https://teachingcen-ter.ufl.edu/</u>.

Writing Studio, 302 Tigert Hall, 846-1138. Help brainstorming, formatting, and writing papers. <u>https://writing.ufl.edu/writing-studio/</u>.

Student Complaints Campus: <u>https://www.dso.ufl.edu/documents/UF_Complaints_policy.pdf.</u>

On-Line Students Complaints: <u>http://www.distance.ufl.edu/student-complaint-process</u>.