# Numerical AnaLysis: A Computational Approach

#### [Course Number] COT4501

#### [Credit Hours] 3

#### [Semester/Year] SPRING 2019

#### [Class location] CSE E119

#### [Class meeting time(s)] M, W, F 4th Period, 10:40AM – 11:30AM

Instructor (Required): Anand Rangarajan

CSE E352  
anand@cise.ufl.edu

Office Hours: 11:45AM-12:30PM, MWF or by appointment.

Course TA or Coordinator: Luke A. Bauer

Course Website: <http://elearning.ufl.edu>

Course Communications: E-mail

Required or REcommended Textbooks:

Required: Scientific Computing, An Introductory Survey, Second Edition, Michael T. Heath, The McGraw-Hill Companies, Inc.; 2nd edition (July 17, 2002), **ISBN-10**: 0072399104, **ISBN-13**: 978-0072399103

Recommended: An Introduction to Numerical Methods and Analysis 2nd Edition, James F. Epperson, Wiley; 2 edition (October 7, 2013), **ISBN-10**: 1118367596, **ISBN-13**: 978-1118367599

Materials and Supplies Fees: There are no additional fees for this course.

Course Description: The goal of COT4501: Numerical Analysis – A Computational Approach is to provide you with the required tools to efficiently compute solutions to a wide range of numerical problems that arise in many different domains and fields.

Prerequisite Knowledge and Skills: Calculus, basic linear algebra

Course Goals and/or Objectives: By the end of this course, students will become familiar with some of the basic concepts and principles studied in numerical analysis as well as several standard techniques and algorithms that appear frequently in various kinds of scientific computing. Topics covered in this course include: numerical linear algebra, linear regression, basic optimization, interpolation.

## Course Policies:

Quiz/Exam DAtes/Policies: Makeups are allowed only due to extreme, documented circumstances. Students should arrange with the instructor for makeup material, and the student will receive one week to prepare for any makeup assignment, if circumstances allow it.

Course Technology: The following resources are available

* <http://helpdesk.ufl.edu>
* (352) 392-HELP - select option 2

Online course evaluation: Students are expected to provide feedback on the quality of instruction in this course by completing online evaluations at <https://evaluations.ufl.edu>. Evaluations are typically open during the last two or three weeks of the semesters, but students will be given specific times when they are open. Summary results of these assessments are available to students at <https://evaluations.ufl.edu/results>.

## UF Policies:

University Policy on Accommodating Students with Disabilities: Students with disabilities requesting accommodations should first register with the Disability Resource Center (352-392-8565, [www.dso.ufl.edu/drc](http://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.

University Policy on Academic Conduct: 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 honesty 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 (<http://www.dso.ufl.edu/sccr/process/student-conduct-honor-code/>) 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.

Class Demeanor or Netiquette: All members of the class are expected to follow rules of common courtesy in all email messages, threaded discussions and chats.

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 [umatter@ufl.edu](mailto:umatter@ufl.edu) 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.

## Getting Help:

For issues with technical difficulties for Canvas, please contact the UF Help Desk at:

* http://helpdesk.ufl.edu
* (352) 392-HELP (4357)
* Walk-in: HUB 132

Any requests for make-ups due to technical issues MUST be accompanied by the ticket number received from the Help Desk when the problem was reported to them. The ticket number will document the time and date of the problem. You MUST e-mail your instructor within 24 hours of the technical difficulty if you wish to request a make-up.

Other resources are available at <http://www.distance.ufl.edu/getting-help> for:

* Counseling and Wellness resources
* Disability resources
* Resources for handling student concerns and complaints
* Library Help Desk support

(Required) Should you have any complaints with your experience in this course please visit <http://www.distance.ufl.edu/student-complaints> to submit a complaint.

## Grading Policies:

### Methods by which students will be evaluated and their grade determined:

The overall total score achieved by each student will be used in grade determination. The breakdown is 30% for homework assignments, 20% for the project, 25% for the first midterm and 25% for the second midterm.

### Information on current UF grading policies for assigning grade points

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

Grading Scale: Gaps in the histogram will be used for determining the course grade. In the past, the grading scale has roughly been: A: 90, A-: 85, B+: 80, B:75, C+: 70 and C: 65 but this is NOT guaranteed. Each semester is different.

## Course Schedule:

Critical Dates: Homework assignments are usually assigned once a week. There will be two midterm exams during the semester. The project is due at the end of the semester on Wednesday, April 24th, 2019 at 11:59PM. The first midterm will most likely be held on Wednesday, February 27th, 2019 from 8:20PM-10:10PM. The second midterm will be held during the normal exam slot on Thursday, May 2nd, 2019 from 10AM-12noon. Rooms: TBA.

A Weekly Schedule of Topics and ASsignments: This will be Auto-generated by CANVAS

Disclaimer: This syllabus represents my current plans and objectives.  As we go through the semester, those plans may need to change to enhance the class learning opportunity.  Such changes, communicated clearly, are not unusual and should be expected.