

University Honors College

HONORS CONTRACT

Course Eligibility: See Page Two

Please Print/Type

SEMESTER: ☒ Fall ☐ Spring ☐ Summer **YEAR:** 2018 **ID#** M01250797

**DUE
MAY 30th**

STUDENT NAME	Cole	Jackson	Lane	E-MAIL
	last	first	middle	jlc2de@mtmail.mtsu.edu

MAJOR	Physics	CELL PHONE	015-971-0888
		(if no cell #, then home #)	

MINOR	Mathematics	GRADUATION SEMESTER	Fall 2018	GPA	3.875
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COURSE TITLE	MATH 3180 - Introduction to Numerical Analysis	CREDIT HOURS	3.000
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COURSE RUBRIC and NUMBER N/A **CRN#** 80907

INSTRUCTOR Dr. Suk Jai Seo **E-MAIL** Suk.Seo@mtsu.edu

Describe the additional course requirements. ***Specifically*** address how the work proposed by this contract is different from and/or expands upon the requirements for the regular course.

- ☒ The regular class syllabus is attached
- ☒ A one-page detailed description of the Honors component is attached (see back page)
- The Honors Contract will not be approved without BOTH of these documents!**

We, the undersigned, hereby agree to pursue the project detailed above during this semester. As a result of the successful completion of this work, an Honors designation will be applied to the above-named course as it appears on the student's official transcript.

Approval Signatures

<hr style="border: 0; border-top: 1px solid black; margin-bottom: 5px;"/> Student _____ Date _____	<hr style="border: 0; border-top: 1px solid black; margin-bottom: 5px;"/> Instructor _____ Date _____
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Honors College Academic Advisor	Date
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Honors College Dean or Associate Dean _____ Date _____

NOTIFICATION OF COMPLETION

The attached e-mail notification certifies that _____ has completed the requirements above and has earned University Honors credit for the identified course.

Honors College Executive Secretary _____ Date _____

Guidelines for the Honors Contract

UPPER-DIVISION CREDIT

Honors students may obtain Honors credit in a Non-Honors upper-division course in his or her major, concentration, or minor with an Honors Contract. Students may receive Honors credit in unlimited upper-division courses, but Honors College graduates can **only apply a maximum of four (4) hours of Honors Contract hours** toward the eleven-hour, upper-division Honors College requirement.

LOWER-DIVISION CREDIT

Honors students may obtain Honors credit in a Non-Honors lower-division course (2000 level) that is **never** offered as an Honors section. This does not apply if an Honors course isn't offered the semester you want to take it (i.e. a course offered every fall, but not spring, would not qualify in the spring). Students may receive Honors credit in unlimited lower-division courses (2000 level), but Honors students can **only apply a maximum of six (6) hours of Honors Contract hours** toward the 18-hour, lower-division Honors College requirement.

FRESHMAN LEVEL 1000 COURSES DO NOT QUALIFY.

The Honors Contract should create a partnership of mutual benefit to both the student and the faculty member. For an Honors student, the Contract should involve a project or activity that delves deeper in the course material and results in a better appreciation and understanding of the subject matter that can be used as a positive experience in preparation for future goals. Faculty members can use the Honors Contract to try innovative or interesting activities or projects that are not practical to do with an entire class. In all cases, the Honors component in the Honors Contract should target one or more of the following areas: scholarship, leadership, or service. **Questions regarding the nature of a specific Honors Contract can be directed to Dr. John Vile, (John.Vile@mtsu.edu), Dean, 615-898-2152, or Dr. Philip Phillips (Philip.Phillips@mtsu.edu), Interim Associate Dean, at 615-898-2699.**

The Honors Contract must **explicitly state** the work the student will undertake to earn the Honors designation. That work should be more rigorous than and/or go above and beyond what is expected of the other students in the course. For instance:

- Students may undertake an additional, or more demanding research project;
- give a special presentation to the class;
- participate in a workshop;
- expand a paper for presentation or submission at a conference;
- work as a research assistant;
- be involved in an internship;
- conduct field work;
- create/exhibit exceptional art work; or
- give a performance or concert.

The contract should also state **specifically** how the work proposed by the Contract is different from the requirements of the other students in the course. For example:

Katie will write a research paper. **WILL NOT MERIT APPROVAL**

Katie will write a longer research paper. **WILL NOT MERIT APPROVAL**

Katie will complete additional projects to be decided upon as the course progresses. **WILL NOT MERIT APPROVAL**

The correct way to address the Honors Contract should be similar to, or as detailed as:

For Honors credit, Katie will write a 15-page research paper on a theory of ethics not covered in this class. This extra writing assignment will require Katie to use at least two other outside resources and to apply in-depth research methods and critical thinking.

At the end of the semester, the professor should send an e-mail confirmation (to Karen.Demonbreum@mtsu.edu) indicating that the student has completed the Honors component of this course. This should be done no later than seven (7) days after the final exam for the course. The Honors College will then notify the Records Office to assign the Honors designation on the student's transcript.

Introduction to Numerical Analysis, CSCI/MATH 3180

Fall 2018

Instructor: Dr. Suk Jai Seo

Office: KOM 303-A (904-8292)

Class time: TR 2:40-4:05pm

Office hours: TR 12:45 – 2:00 pm, TR 4:05-5:00pm

Other times by appointment and generally available seven days a week via email. See below for the details.

Email address: Suk.Seo@mtsu.edu

D2L: The D2L page for this class will contain links to course information, including this syllabus and some assignments. Access D2L through PipelineMT or directly using <https://elearn.mtsu.edu/>.

Catalog Description: Topics include series approximation, finite differences interpolation, summation, numerical differentiation and integration, iteration, curve fitting, systems of equations and matrices, and error analysis.

Prerequisites: MATH 1920 and CSCI 1170, each with a grade of C or higher.

Textbook: Numerical Mathematics and Computing (7th Edition) by Cheney and Kincaid

Learning Outcomes: Upon completion of this course, students should be able to

- understand a variety of methods by which a modern digital computer can be used to solve numerical problems
- understand how errors arise in numerical computing and methods for detecting, predicting and controlling errors
- have sharpened programming and problem solving skills

Course Communication:

Students are responsible for monitoring for MTMAIL **daily**. Following MTSU's FERPA-based [e-mail policies](#), all course-related e-mail will be sent to your [MTMAIL](#) account; in turn, you are **required** to use your **MTMAIL** account when communicating with the instructor.

Emails sent to the instructor must contain the name of the sender, the subject, and the detailed message.

Do not try to contact the instructor through D2L.

Use Suk.seo@mtsu.edu

Use of personal electronic devices in the classroom:

Cell phones, laptops, tablets, and other electronic devices must be turned off and put away during class unless the instructor determines that these devices are allowed to be used in the class. Students are not permitted to take photos or record any part of a class/lab unless explicitly granted permission by the instructor or the MTSU Disability Access Center. Sanctions for violation of this policy will be determined by the instructor and may include dismissal from the class, attendance penalties or loss of class participation points, zero grades on quizzes or examinations, failure in the class, or other penalties that the instructor determines to be appropriate.

All course materials are protected by the law of copyright. Students are not authorized to use, reuse, reproduce, distribute, broadcast or publish the course materials, or any part of the course materials, in any medium, including via the internet and social media sites. This means that students are not allowed to photograph or reproduce course materials, and that students are not allowed to record lectures, except as provided for by an approved ADA request.

Academic honesty: *The Computer Science Department's [Policy on Academic Integrity](#) applies to this course. All work for this class (including exams, homework, and labs) is to be done on an individual basis. Unless otherwise directed, work alone on lab assignments. The penalty for unauthorized collaboration will range from a grade of zero for an assignment to a failing grade for the course.*

Attendance: Attendance is required and absences do not excuse one from class responsibilities. ***If for some unavoidable reason you must miss class, obtain class notes, handouts, and assignments from another class member.*** You are expected to be on time for class. Consistent lateness to class is disruptive and is considered to be

disrespectful. It is best to come late, however, rather than not at all!

Attendance is determined/judged/counted by the student being in attendance through the lecture and that student signing the name on the daily attendance sheet. It is each student's responsibility to locate and sign this sheet each class period during the class.

Students failing to attend the first two class meetings will be dropped from the class.

Grading policy:

- **Examination grades** – there will be four examinations counting 50 points each and a final examination counting 100 points. These exams will cover lectures, assigned readings, and labs. **No make-up exams will be given.** *If you miss a regularly scheduled exam, 50% of the final exam score will replace this exam.* If an exam is not missed then 50% of the final exam score can replace the lowest test score.
- **Laboratory assignments** - There will be ten lab assignments and they will be worth 100 points in total.
- **Quizzes** - There will be a quiz daily and they will be worth 100 points in total.

Point System: 500 total assigned points

- A: (450-500 pts)
- B: (400-449 pts)
- C: (350-399 pts)
- D: (300-349 pts)
- F: (0-299 pts)

WITH THE FOLLOWING EXCEPTIONS:

1. The total points of the five exams must be at least 180 points (60 %) to pass the course.
2. The total points of the Lab Assignments must be at least 60 points (60 %) to pass the course.
3. The total points of the quizzes must be at least 60 points (60 %) to pass the course.

NOTE: Any questions concerning a grade on a lab or exam must be handled within five days of the time the item was returned.

Attendance Bonus:

Absences	0	1	2
Bonus points	15	10	5

Important dates:

September 6	Exam 1	October 31	Last day to drop with a "W"
September 9	Last day to drop without a grade	November 15	Exam 4
September 27	Exam 2	December 4	Last Day of Class
October 25	Exam 3	December 11	Final Exam (3:30-5:30)

Reasonable accommodation for students with disabilities: If you have a disability that may require assistance or accommodation, or you have questions related to any accommodations for testing, note takers, readers, etc., please speak with the instructor as soon as possible. Any student interested in reasonable accommodations can consult the *Disability & Access Center (DAC)* website www.mtsu.edu/dac. Students may also contact the *DAC* for assistance at 615-898-2783 or dacemail@mtsu.edu. Middle Tennessee State University is committed to campus access in accordance with Title II of the Americans with Disabilities Act and Section 504 of the Vocational Rehabilitation Act of 1973.

FINANCIAL AID NOTICE:

Do you have a lottery scholarship? To retain the Tennessee Education Lottery Scholarship eligibility, you must earn a cumulative TELS GPA of 2.75 after 24 and 48 attempted hours and a cumulative TELS GPA of 3.0 thereafter. A grade of C, D, F, FA, or I in this class may negatively impact TELS eligibility.

If you drop this class, withdraw, or if you stop attending this class you may lose eligibility for your lottery scholarship, and you will not be able to regain eligibility at a later time.

For additional Lottery rules, please refer to your Lottery Statement of Understanding form (<http://www.mtsu.edu/financial-aid/forms/LOTFEV.pdf>) or contact your MT One Stop Enrollment Coordinator (<http://www.mtsu.edu/one-stop/counselor.php>).

PROBLEMS, COMPLAINTS, OR SUGGESTIONS:

If you are having problems with the course, or have a complaint or suggestion you would like to voice, please bring this to the attention of the course instructor as soon as possible.

FREE TUTORING!

Learn how to study, get help with understanding difficult course material, receive better test grades, or simply improve your grade point average. Take advantage of our FREE tutoring that is available to you as an MTSU student. Tutoring is available in study skills and learning strategies, and over 180 courses including biology, history, computer information systems, physics, math, psychology, chemistry, economics, recording industry, and many more. The central location for tutoring is the Tutoring Spot, located in Walker Library. Tutoring is also conducted at various other campus sites. For available tutoring opportunities, visit <http://mtsu.edu/studentsuccess/tutoring.php#on>. For questions, call the Tutoring Spot at 615-904-8014.

TENTATIVE Schedule (CSCI/MATH 3180)

<u>Dates</u>	<u>Topic</u>	<u>Labs/Exams</u>
8/28, 30	Visual Studio 2015 Maple Chapter 1: Mathematical Preliminaries	LAB1
9/4, 6	Chapter 4: Numerical Differentiation	EXAM1
9/11,13	Chapter 7: Initial Value Problems	LAB2
9/18, 20	Chapter 7: Initial Value Problems	LAB3
9/25, 27	Chapter 2: Linear Systems	EXAM2
10/2, 10/4	Chapter 2: Linear Systems	LAB4
10/9, 11	Chapter 4: Interpolation	LAB5
10/18	Chapter 4: Interpolation	LAB6
10/23, 25	Chapter 6: Spline Functions	EXAM3
10/30, 11/1	Chapter 6: Spline Functions	LAB7
11/6, 8	Chapter 3: Nonlinear Equations	LAB8
11/13, 15	Chapter 3: Nonlinear Equations	EXAM4
11/20, 22	Chapter 5: Numerical Integration	LAB9
11/27	Chapter 5: Numerical Integration	LAB10
12/4	Review	
12/11	Final Exam (3:30-5:30pm)	FINAL EXAM