Course title and number	MATH 152 – Engineering Mathematics II
	Sections 555-557
Term	Spring 2016
Class times and location	Lecture TR 12:45-02:00 HELD 105
	555 Lab 11:30-12:20 M CE 222 W BLOC 124
	556 Lab 12:40-01:30 M CE 134 W BLOC 123
	557 Lab 01:50-02:40 M CE 223 W BLOC 126

INSTRUCTOR INFORMATION

Name	Philip Yasskin
Instructor Webpage	www.math.tamu.edu/~yasskin
Class Webpage	http://www.math.tamu.edu/~yasskin/currclas/152.16a/
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Office	Blocker 620 I
Office hours	M 2:00-3:00, W 3:00-4:00 or by appointment
TA: Joseph Noles	jnoles@math.tamu.edu BLOC 525A

COURSE DESCRIPTION AND PREREQUISITES

Description: (Credit 4) Integration techniques and their applications (area, volumes, work), improper integrals, analytic geometry, vectors, infinite series, power series, Taylor series, computer algebra (Matlab).

Prerequisites: Math 151 or equivalent. Credit will not be given for more than one of Math 148, 152, 172.

Calculator Policy: Calculators are not allowed on exams or quizzes, although they may be used on homework assignments. Use of a calculator on a quiz or exam is considered academic dishonesty and will be reported to the Aggie Honor Council.

LEARNING OUTCOMES

This course is focused on quantitative literacy in mathematics as applied to Engineering and Physics. Upon successful completion of this course, students will be able to:

- Use the concepts of definite integrals to solve problems involving area, volume, work, and other physical applications.
- Use substitution, integration by parts, trigonometric substitution, and partial fractions to evaluate definite and indefinite integrals.
- Apply the concepts of limits, convergence, and divergence to evaluate different types of improper integrals.
- Determine convergence or divergence of sequences and series.
- Use Taylor and MacLaurin series to represent functions.
- Use Taylor or MacLaurin series to integrate functions not integrable by conventional methods.
- Understand and apply vector operations such as dot and cross product in three dimensions.
- Use Computer Algebra Systems such as Matlab to solve non-routine problems.

TEXTBOOK AND/OR RESOURCE MATERIAL

- *Textbook:* Stewart, *Calculus: Early Vectors,* Cengage Learning. You paid for an electronic version of this textbook (eBook) through the online system WebAssign when you paid for your courses. Information on how to access your eBook can be found under the "Student Information Page" at http://www.math.tamu.edu/courses/eHomework. You are welcome to purchase a physical copy of the textbook or a loose-leaf copy of the text if you prefer, but this is not required.

- *Lab Manual:* Gilat-Amos, *MATLAB: An Introduction with Applications,* 5th edition, Wiley

- *WebCalc 2:* Instructor's Notes. Available using Scientific Notebook (only) at
http://www.math.tamu.edu/~yasskin/webcalc/2/mcontents.tex

GRADING POLICIES

The course grading will be based on the tables below. Due to FERPA privacy issues, I cannot discuss grades over email or phone. If you have a question about your grade, please come see me in person.

- **Grade Breakdown**

Activity	Date	Points
Homework	Weekly	30
Quizzes	Weekly	90
MatLabs	See Lab Schedule	30
Maplets	See Lab Schedule	0
Common Exam I	Thursday, Feb 18, 7:30-9:30pm (covers thru 8.2)	100
Common Exam II	Thursday, Mar 24, 7:30-9:30pm (covers thru 10.2)	100
Common Exam III	Tuesday, Apr 26, 7:30-9:30pm (covers thru 11.2)	100
Final Exams	Tuesday, May 10, 8:00-10:00am in HELD 105	150
TOTAL		600

- **Grading Scale**

Range	Grade
540-600	A
480-539	B
420-479	C
360-419	D
000-359	F

Attendance and Makeup policies

- **Attendance** is required. Attendance will be taken. If you sign the roll sheet, you are expected to remain in the classroom for the entire 75 minutes. More than 2 absences may have a detrimental effect on your grade especially in borderline cases. University student rules concerning excused and unexcused absences as well as makeups can be found at http://student-rules.tamu.edu/rule07

• **Excused absences**: Make-up exams and quizzes or late homework/labs will NOT be allowed unless a **University approved reason is given to me in writing**. Notification *before* the absence is **required** when possible. Otherwise, you must notify me **within 2 working days** of the missed exam, quiz, or assignment to arrange a makeup. In all cases where an exam/quiz/assignment is missed due to an injury or illness, whether it be more or less than 3 days, **I require a doctor's note**. I will not accept the "University Explanatory Statement for Absence from Class" form. Further, an absence due to a non-acute medical service or appointment (such as a regular checkup) is *not* an excused absence. Providing a fake or falsified doctor's note or other falsified documentation is considered academic dishonesty, will be reported to the Aggie Honor Council, and will result in an F* in the course.

• **Makeup** exams will only be allowed provided the above guidelines are met. You will be allowed to make up a missed exam during one of the scheduled makeup times provided by the Math Department. According to Student Rule 7, you are expected to attend the scheduled makeup unless you have a University-approved excuse for missing the makeup time as well. If there are multiple makeup exam times, you must attend the *earliest* makeup time for which you do not have a University-approved excuse. The list of makeup times will be available at http://www.math.tamu.edu/courses/makeupexams.html.

ADDITIONAL COURSE INFORMATION AND POLICIES

Final Exam: The final exam will be a cumulative (comprehensive) exam. The day and time of the final exam are determined by the University.

eHOMEWORK will be assigned from the WebAssign Homework system. Late eHOMEWORK will NOT be accepted. Rather, the lowest 5 eHOMEWORK grades will be dropped. The remaining grades will be averaged and then rescaled to 30 points

Suggested Homework: Math cannot be learned by watching someone else do math. It requires a lot of practice. On my webpage there is a list of suggested homework. I STRONGLY suggest that you do these problems for more practice in addition to the online homework. They will not be collected, but doing them to help you learn the material is very important.

MATLAB assignments will be given in lab. Students will work in pairs. They are due at the beginning of the assigned lab. The lowest 1 lab will be dropped. The remaining grades will be averaged and then rescaled to 30 points. Late labs will be accepted only if there is a University excused absence.

QUIZZES will be given in lecture or and will not be announced or they may be Take-Home QUIZZES due on announced dates. QUIZZES will each count equally. The lowest one QUIZ will be dropped. The remaining grades will be averaged and then rescaled to 90 points. There will be NO make-ups for In-Class QUIZZES. Rather one more grade will be dropped. Late Take-Home QUIZZES will be accepted only if there is a University excused absence.

MAPLETS FOR CALCULUS will be done in lab and at home. There is no grade but the material will be reflected in the quizzes and exams.

You must have your id with you at all exams. Calculators and phones are not allowed. Make-ups for major exams will be given only in case of an absence authorized under university regulations. You will need a note from your doctor or your academic dean's office. If you know in advance that you will miss an exam, please contact me in advance. If you email me, be sure to include your phone number.

Additional Helpful Links:

- Help Sessions   http://www.math.tamu.edu/courses/helpsessions.html
- Week in Reviews   http://www.math.tamu.edu/courses/weekinreview.html
- Academic Calendar   http://registrar.tamu.edu/General/Calendar.aspx
- Final Exam Schedule   http://registrar.tamu.edu/General/FinalSchedule.aspx

COURSE TOPICS (Tentative weekly schedule)

WEEK	TOPIC	SECTIONS COVERED
1	Review of the Fundamental Theorem of Calculus, integration by substitution, area	Sections 6.4–6.5, 7.1
2	Area, volumes by slicing, disks, washers	Sections 7.1–7.2
3	Volume by cylindrical shells, work	Sections 7.3–7.4
4	Average value, integration by parts, trigonometric integrals	Sections 7.5, 8.1–8.2
5	Trigonometric substitution, partial fractions. **Exam 1** (Covers through Section 8.2).	Sections 8.3–8.4
6	Improper integrals, arc length, surface area of revolution	Sections 8.9, 9.3–9.4
7	Sequences, Series	Sections 10.1–10.2
8	Series, convergence tests	Sections 10.2–10.3
9	Absolute convergence, convergence tests. **Exam 2** (Covers through Section 10.2).	Section 10.4
10	Power series, representing functions as power series	Sections 10.5–10.6
11	Taylor and Maclaurin series, applications of Taylor series	Sections 10.7, 10.9
12	3D coordinates, vectors, dot product	Section 11.1–11.2
13	Cross product	Section 11.3
14/15	Polar coordinates. **Exam 3** (Covers through Section 11.2), Review for Final Exam	Section 13.4

AMERICANS WITH DISABILITIES ACT (ADA)

The Americans with Disabilities Act (ADA) is a federal anti-discrimination statute that provides comprehensive civil rights protection for persons with disabilities. Among other things, this legislation requires that all students with disabilities be guaranteed a learning environment that provides for reasonable accommodation of their disabilities. If you believe you have a disability requiring an accommodation, please contact Disability Services, in Cain Hall, Room B118, or call 845-1637. For additional information visit http://disability.tamu.edu

ACADEMIC INTEGRITY
Cheating and other forms of academic dishonesty **will not** be tolerated. Please do not compromise your integrity for the sake of temporary benefits.

Aggie Honor Code: "An Aggie does not lie, cheat, or steal, or tolerate those who do."

Upon accepting admission to Texas A&M University, a student immediately assumes a commitment to uphold the Honor Code, to accept responsibility for learning, and to follow the philosophy and rules of the Honor System. Students will be required to state their commitment on examinations, research papers, and other academic work. Ignorance of the rules does not exclude any member of the TAMU community from the requirements or the processes of the Honor System.
For additional information please visit: http://aggiehonor.tamu.edu