MATH 241 Spring 2017
Sections 004, 007, E23

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Office Hours: TBA

Meeting Times

Section	Schedule	Location
Section 004	**MWF** 1:10 PM - 2:00 PM	LeConte 405
Section 007	**MWF** 9:40 AM - 10:30 AM	LeConte 112
Section E23	**MWF** 12:00 PM - 12:50 PM	LeConte 405

Important deadlines you need to know

The semester begins Monday, January 9th and ends Monday, April 24th.

The deadline to drop/add and the last day to change credit/audit is Tuesday, January 17th. The first day in which a "W" grade is assigned is therefore Wednesday, January 18th.

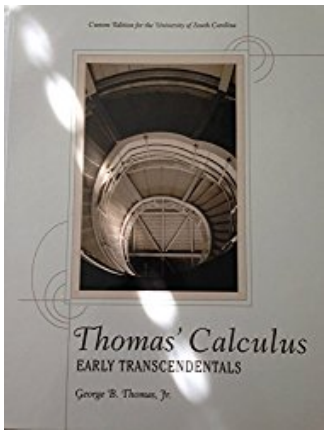
The last day to obtain a "W" grade or to elect a pass/fail grade is Thursday, March 2nd. The first day in which a "WF" grade is assigned is therefore Friday, March 3rd.

Prerequisites

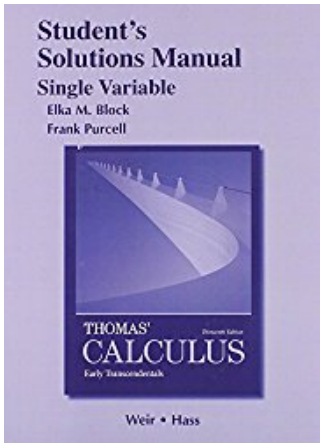
A grade of **C** or better in MATH 142.

Text

Calculus. Early Transcendentals by George B. Thomas Jr. (custom edition for the University of South Carolina). **Pearson**



Thomas' Calculus Early Transcendentals Custom Edition for the University of South Carolina



Student Solutions Manual, Single Variable, for Thomas' Calculus: Early Transcendentals

Course Structure and Grading Policies

Your final score for the course will be computed as follows:

```
F = 0.10 * (HW + Q + ME1 + ME2 + ME3 + ME4 + ME5) + 0.30 * FE
```

Homework assignments: (up to 100 points) 10% of the course grade.
Homework problems have been assigned for each lecture (you can see them at the end of this page, under *Lesson Plan*). A selection of those problems are posted on MyMathLab on the day of the lecture, and will be graded.
You will have until the end of the following day to complete the assignment (e.g. what is posted on Monday is due on Wednesday at 11:59 PM; what is posted on Friday is due on Monday at 11:59 PM)
In order to register for your section of the course on MyMathLab, visit www.mymathlab.com and click on [Student]. The course ID for my sections is

`blanco-silva86486`

Click [here] to retrieve further registration/sign-in instructions.

Quizzes: (up to 100 points) 10% of the course grade.
Online quizzes will be offered through MyMathLab. One every week, except the first week, weeks of a midterm exam, or the last week of classes. Occasionally, pop-quizzes may be given during lectures.

In-class tests: (up to 100 points each) 50% of the course grade (10% each test).
There will be five in-class tests scheduled as follows:

Test #	Date

1	Fri, Feb 03
2	Wed, Feb 22
3	Fri, Mar 03
4	Fri, Mar 31
5	Fri, Apr 14

Final Exam: (up to 100 points) 30% of the course grade.
The final exams are scheduled as follows:

- **Section 004**: Friday, April 28th, 12:30 pm
- **Section 007**: Friday, April 28th, 9:00 am
- **Section E23**: Monday, May 1st, 12:30 pm

No make-up quizzes or tests will be given. Only the following reasons are valid excuses for missing class or assignments, and must be verified by letter from a doctor, guardian or supervisor.

- Participation in an authorized University activity (such as musical performances, academic competitions, or varsity athletic events in which the student plays a formal role in a University sanctioned event)
- Required participation in military duties
- Mandatory admission interviews for professional or graduate school which cannot be rescheduled
- Participation in legal proceedings or administrative duties that require a student's presence
- Death or major illness in a student's immediate family
- Illness of a dependent family member
- Religious holy day if listed on www.interfaithcalendar.org
- Illness that is too severe or contagious for the student to attend class
- Weather-related emergencies

Students should notify faculty members at least two weeks prior to the absence when possible. In all cases, students must contact the faculty member to request an accommodation upon return to class.

The course grade will be determined as follows:

GRADE	RANGE
A	90%-100%
B+	85%-89%
B	80%-84%

GRADE	RANGE
C+	75%-79%
C	70%-74%
D+	65%-69%
D	60%-64%
F	below 60%

Further Information

Honor Code: The Honor Code applies to all work for this course. Please review the Honor Code at [this link]. Students found violating the Honor Code will be subject to discipline.

Class notes and other additional material will be stored in Dropbox. In that case, you may need an account to retrieve it. If you do not have one already, sign-in through [this link] with your academic e-mail address to receive a base 4GB storage, plus an extra 500MB, free of charge.

Remember to change your e-mail address on Blackboard if necessary [blackboard.sc.edu]

Office of Student Disability Services: If you have special needs as addressed by the *Americans with Disabilities Act* and need any assistance, please notify the instructor immediately.

Student Success Center:
In partnership with University of South Carolina faculty, the Student Success Center (SSC) offers a number of programs to assist you in better understanding your course material and to aid you on your path to success. SSC programs are facilitated by trained undergraduate peer leaders who have previously excelled in their courses. Resources available to students in this course include:

- **Peer Tutoring:** You can make a one-on-one appointment with a peer tutor by going to www.sc.edu/success. Drop-in Tutoring and Online Tutoring may also be available for this course. Visit the previous website for a full schedule of times, locations, and courses.
- **Success Connect:** Throughout the semester, I may communicate with the SSC regarding your progress in the course. If contacted by the SSC, please schedule an appointment to discuss campus resources that are available to you. Success Connect referrals are not punitive and any information shared by me is confidential and subject to FERPA regulations.

SSC services are offered to all USC undergraduates at no additional cost. You are invited to call the Student Success Hotline at (803) 777-1000 or visit www.sc.edu/success to check schedules and make appointments. Success Consultants are available to assist you in navigating the University and connecting to available resources.

Learning Outcomes

A student who successfully completes Vector Calculus (MATH 241) should continue to develop as an independent learner with the ability to approach problems from a conceptual viewpoint, to utilize more than one idea in a single problem, and to apply appropriate calculus skills to problems in context. In particular, the successful student will master concepts and gain skills needed to solve problems related to:

- Vectors and vector functions
- Finding equations of lines and planes
- Parametric curves
- Differentiability, continuity and limits of functions of two or more variables.
- Directional derivatives and gradients.
- Maxima and minima of functions of more than one variable.
- Double integrals
  - Over rectangular regions
  - Over non-rectangular regions
  - In polar coordinates
- Triple Integrals
  - Over rectangular regions
  - In Cylindrical coordinates
  - In Spherical coordinates
- Line Integrals
- Green's Theorem

Lesson plan

- **First part: Vector functions**
  - **Mon Jan 09**: 12.1: Coordinates in 3-space, distance
  - **Wed Jan 11**: 12.2: Vectors
  - **Fri Jan 13**: 12.3: Dot product, projections
  - **Wed Jan 18**: 12.4: Cross and triple products
  - **Fri Jan 20**: 12.5: Equations of lines and planes
  - **Mon Jan 23**: 12.6: Cylinders and Quadratic surfaces
  - **Wed Jan 25**: 13.1 and 13.2: Vector functions, derivatives and integrals
  - **Fri Jan 27**: 13.3: Curvature, principal normal
  - **Mon Jan 30**: 13.4: Motion, velocity, acceleration
  - **Wed Feb 01**: Review
  - **Fri Feb 03**: First Test---sections 12.1--12.6, 13.1--13.4
- **Second Part: Functions of several variables**
  - **Mon Feb 06**: 14.1 and 14.2: Intro to functions of several variables
  - **Wed Feb 08**: 14.1 and 14.2: Limits and Continuity
  - **Fri Feb 10**: 14.3: Partial derivatives, higher order partials, mixed partials
  - **Mon Feb 13**: 14.6: Tangent planes, linear approximation
  - **Wed Feb 15**: 14.4: Chain rule, Implicit differentiation
  - **Fri Feb 17**: 14.5: Directional derivatives, gradients
  - **Fri Feb 20**: Review
  - **Mon Feb 22**: Second Test---sections 14.1--14.6
  - **Wed Feb 24**: 14.7: Maxima and minima
  - **Fri Feb 27**: 14.7: Maxima and minima
  - **Mon Feb 29**: 14.8: Lagrange multipliers

- **Wed Mar 01**: 14.8: Lagrange multipliers
- **Fri Mar 03**: Third Test---sections 14.7--14.8

- **Third Part: Integration**
  - **Mon Oct 19**: 15.1 and 15.2: Double integrals over rectangles, Iterated integrals [Review of Integration techniques]
  - **Mon Mar 13**: 15.2 and 15.3: Double integrals over general regions. Area by Double Integration
  - **Wed Mar 15**: 15.4: Double integrals in polar form
  - **Fri Mar 17**: 15.5: Intro to Triple integrals
  - **Mon Mar 20**: 15.7: Cylindrical and Spherical coordinates
  - **Wed Mar 22**: 15.7: Triple integrals in cylindrical coordinates
  - **Fri Mar 24**: 15.7: Triple integrals in spherical coordinates
  - **Mon Mar 27**: 15.8: Change of variables in multiple integrals
  - **Wed Mar 29**: Review
  - **Fri Mar 31**: Fourth Test---sections 15.1--15.5, 15.7 and 15.8
- **Fourth Part: Green's Theorem**
  - **Mon Apr 03**: 16.2: Intro to Vector fields
  - **Wed Apr 05**: 16.1: Line integrals
  - **Fri Apr 07**: 16.3: The Fundamental Theorem for Line integrals
  - **Mon Apr 10**: 16.4: Green's Theorem (in the plane)
  - **Wed Apr 12**: Review
  - **Fri Apr 14**: Fifth Test---sections 16.1--16.4
- **Final Week: Review of the material**
  - **Mon Apr 17**: Review for final exam
  - **Wed Apr 19**: Review for final exam
  - **Fri Apr 21**: Review for final exam
  - **Mon Apr 24**: Review for final exam