## Math 127 - Calculus III Spring 2022 Schedule

## Week 1:

| Lecture \# | Day | Date | Section(s) |
| :--- | :--- | :--- | :--- |
|  | Monday | $1 / 17$ | Dr. Martin Luther King Holiday |
| Lecture 1 | Wednesday | $1 / 19$ | Introduction and Vector Review |
| Lecture 2 | Friday | $1 / 21$ | Vector Review and Start of 12.6 |
| Lab \# | Day | Date | Section(s) |
|  |  | $1 / 17$ | Week 1 - Lab 1: Worksheet 1 |
|  | Tuesday | $1 / 18$ | Vector Review |
| Lab 2 | Wednesday | $1 / 19$ | Week 1 - Lab 2: Worksheet 1 |
|  | or | or |  |
|  | Thursday | $1 / 20$ | Vector Review |
| Due Dates | Day | Date | Assignments |
|  | Friday | $1 / 21$ | Diagnostic Quiz 1- Vector Review Canvas (Extra Credit) |
|  | Friday | $1 / 21$ | Achieve Homework 0: Vector Review |
| $1 / 21$ | Worksheets 1 (Attend Labs \& Upload to Canvas) |  |  |$|$|  |
| :--- |

## Week 2:

| Lecture \# | Day | Date | Section(s) |  |
| :---: | :---: | :---: | :---: | :---: |
| Lecture 3 | Monday | 1/24 | 12.6: A Survey of Quadric Surfaces |  |
| Lecture 4 | Wednesday | 1/26 | 14.1: Functions of Two or More Variables |  |
| Lecture 5 | Friday | 1/28 | 11.3: Polar Coordinates <br> 12.7: Cylindrical and Spherical Coordinates |  |
| Lab \# | Day | Date | Section(s) |  |
| Lab 3.0 | Monday or Tuesday | $\begin{aligned} & \hline \hline 1 / 24 \\ & \text { or } \\ & 1 / 25 \end{aligned}$ | Week 2-Lab 1: Worksheet 2 <br> Vector Review |  |
| Lab 4 | Wednesday or Thursday | $\begin{aligned} & 1 / 26 \\ & \text { or } \\ & 1 / 27 \\ & \hline \hline \end{aligned}$ | Week 2-Lab 2: Worksheet 2 <br> In-class Quiz 1: Review of Equations of Lines and Planes, and Integration Techniques |  |
| Due Dates | Day | Date | Assignments |  |
|  | Friday Friday | $\begin{aligned} & \hline 1 / 28 \\ & 1 / 28 \end{aligned}$ | Achieve Homework 1: Section 12.6 <br> Worksheet 2 (Attend Labs \& Upload to Canvas) |  |

## Week 3:

| Lecture \# | Day | Date | Section(s) |  |
| :---: | :---: | :---: | :---: | :---: |
| Lecture 6 | Monday | 1/31 | CatchUp <br> 14.2: Limits and Continuity in Several Variables |  |
| Lecture 7 | Wednesday | 2/2 | SNOW DAY |  |
| Lecture 8 | Friday | 2/4 | 14.2: Limits and Continuity in Several Variables and 14.3: Partial Derivatives |  |
| Lab \# | Day | Date | Section(s) |  |
| Lab 5 | Monday <br> Tuesday | $\begin{gathered} \hline 2 / 31 \\ 1 / 32 \end{gathered}$ | Week 3 - Lab 1: Worksheet 3 <br> Sections 12.6 and start of 14.1 |  |
| Lab 6 | Wednesday or Thursday | $\begin{aligned} & 2 / 2 \\ & \text { or } \\ & 2 / 3 \\ & \hline \end{aligned}$ | Week 3-Lab 2: Worksheet 4 <br> Sections 12.7 and 14.2 |  |
| Due Dates | Day | Date | Assignments |  |
|  | Friday <br> Tuesday | $\begin{aligned} & \hline 2 / 4 \\ & 2 / 8 \\ & \hline \end{aligned}$ | Achieve Homework 2: Sections 12.7 and 14.1 <br> Worksheet 3 and 4 (Attend Labs \& Upload to Canvas) |  |

## Week 4:

| Lecture \# | Day | Date | Section |
| :--- | :--- | :--- | :--- |
| Lecture 9 | Monday | $2 / 7$ | 14.3: Partial Derivatives and 14.4: Differentiability <br> and Tangent Lines |
| Lecture 10 | Wednesday | $2 / 9$ | $14.4:$ Differentiability and Tangent Lines |
| Lecture 11 | Friday | $2 / 11$ | $14.5:$ The Gradient and Directional Derivatives |
| Lab \# | Day | Date | Section(s) |
| Lab 7 | Monday | $2 / 7$ | Week 3 - Lab 2: Worksheet 4 |
|  | or | or |  |
|  | Tuesday | $2 / 8$ | Sections 12.7 |
| Lab 8 | Wednesday | $2 / 9$ | Week 4 - Lab 1 or 2: Worksheet 5 |
|  | or | or |  |
|  | Thursday | $2 / 10$ | Sections 14.2 |
| Due Dates | Day | Date | Assignments |
|  | Tuesday | $2 / 8$ | Worksheet 3 and 4 (Attend Labs \& Upload to Canvas) |
|  | Friday | $2 / 11$ | Diagnostic Quiz 2 - On Canvas (Extra Credit) |
|  | Friday | $2 / 11$ | Sections 12.6, 12.7, 14.1, 14.2, 14.3 |
|  | Achieve Homework 3: Sections 14.2 and 14.3 |  |  |
|  | Friday | $2 / 11$ | Worksheets 5 (Attend Labs \& Upload to Canvas) |$|$

## Week 5:

| Lecture \# | Day | Date | Section(s) |  |
| :---: | :---: | :---: | :---: | :---: |
| Lecture 12 | Monday | 2/14 | 14.5: The Gradient and Directional Derivatives and 14.6: The Chain Rule |  |
| Lecture 13 | Wednesday | 2/16 | 14.6: The Chain Rule |  |
| Lecture 14 | Friday | 2/18 | 14.7: Optimization in Several Variables |  |
| Lab \# | Day | Date | Section(s) |  |
| Lab 9 | Monday or Tuesday | $\begin{aligned} & \hline \hline 2 / 14 \\ & \text { or } \\ & 2 / 15 \\ & \hline \end{aligned}$ | Week 5-Lab 1: Worksheet 6: Sections 14.3-14.5 In-class Quiz 2: <br> Sections 14.2 and 14.3 |  |
| Lab 10 | Wednesday or Thursday | $\begin{aligned} & 2 / 16 \\ & \text { or } \\ & 2 / 17 \\ & \hline \hline \end{aligned}$ | Week 5 - Lab 2: Worksheet 6 <br> Sections 14.3, 14.4 and 14.5 |  |
| Due Dates | Day | Date | Assignments |  |
|  | Friday <br> Friday <br> Friday | $\begin{aligned} & \hline \hline 2 / 18 \\ & \\ & 2 / 18 \\ & 2 / 18 \\ & \hline \end{aligned}$ | Diagnostic Quiz 3 - Canvas (Extra Credit) <br> $14.5,14.6$ and 14.7 <br> On Canvas (Extra Credit) <br> Achieve Homework 4: Sections 14.4 and 14.5 <br> Worksheets 6 (Attend Labs \& Upload to Canvas) |  |

## Week 6:

| Lecture \# | Day | Date | Section |
| :--- | :--- | :--- | :--- |
| Lecture 15 | Monday | $2 / 21$ | 14.7: Optimization in Several Variables |
| Lecture 16 | Wednesday | $2 / 23$ | 14.8: Lagrange Multipliers |
| Lecture 17 | Friday | $2 / 25$ | 15.1: Integration in Two Variables |
| Lab \# | Day | Date | Section(s) |
| Lab 11 | Wednesday | $2 / 23$ | Mon.:Week 6 - Lab 1: Worksheet: 7:Section 14.6 |
|  | or | or |  |
|  | Tuesday | $2 / 22$ | Tues: Week 5 -Lab 2 Worksheet 6 and Week 6 - Lab <br> $1:$ Worksheet: 7 |
| Lab 12 | Monday | $2 / 21$ | Wed: Week 6 - Lab 2: Worksheet 8: Section 14.7 |
|  | or | or | Thursday |
|  | $2 / 24$ | Thur: Week 6 - Lab 1: Worksheet 7 and Lab 2: 8 |  |
| Due Dates | Day | Date | Assignments |
|  | Tuesday | $2 / 22$ | Worksheet 6 and Achieve 4(Attend Labs \& Upload to Canvas) |
|  | Friday | $2 / 25$ | Achieve Homework 5: Section 14.6 |
|  | Friday | $2 / 25$ | Worksheet 7 and 8 (Attend Labs \& Upload to Canvas) |

## Week 7:

| Lecture \# | Day | Date | Section(s) |
| :--- | :--- | :--- | :--- |
| Lecture 18 | Monday | $2 / 28$ | Midterm 1 Review |
| Midterm 1 | Tuesday | March 1 ${ }^{\text {st }}$ | Sections: 12.6, 12.7, 14.1-14.7 <br> $5: 50-7: 50$ PM Room: Budig 130 |
| Lecture 19 | Wednesday | $3 / 2$ | Catch Up <br> $15.2:$ Double Integrals over General Regions |
| Lecture 20 | Friday | $3 / 4$ | $15.2:$ Double Integrals over General Regions |
| Lab \# | Day | Date | Section(s) |
| Lab 13 | Monday | $3 / 28$ | Practice Exam |
|  | or | or |  |
| Luesday | $3 / 1$ |  |  |
| Lab 14 | Wednesday | $3 / 2$ | Week 7 - Lab 2: Worksheet 9 |
|  | or | or | Section 14.8 |
|  | Thursday | $3 / 3$ | Assignments |
| Due Dates | Day | Date | Achieve Homework 6: Sections 14.7 and 14.8 |
| Optional | Friday | $3 / 4$ | Worksheet 9 (Attend Labs \& Upload to Canvas) |$|$

Week 8:

| Lecture \# | Day | Date | Section |
| :--- | :--- | :--- | :--- |
| Lecture 21 | Monday | $3 / 7$ | $15.2:$ Double Integrals and 15.3: Triple Integrals |
| Lecture 22 | Wednesday | $3 / 9$ | 15.3: Triple Integrals |
| Lecture 23 | Friday | $3 / 11$ | 15.3: Triple Integrals |
| Lab \# | Day | Date | Section(s) |
| Lab 15 | Monday | $3 / 7$ | Week 8 - Lab 1: Worksheet 10 |
|  | or | or | Tuesday |
|  | $3 / 8$ | Section 15.1 |  |
| Lab 16 | Wednesday | $3 / 9$ | Week 8 -Lab 2: Worksheet 11 |
|  | or | or |  |
|  | Thursday | $3 / 10$ | Section 15.2 |
| Due Dates | Day | Date | Assignments |
|  | Tuesday | $3 / 11$ | Last week's extended assignments |
|  | Friday | $3 / 11$ | Diagnostic Quiz 4-Canvas (Extra Credit) |
|  | Friday | $3 / 11$ | Section 15.1, 15.2 and 15.3 |
|  | Achieve Homework 7: Sections 15.1 and 15.2 |  |  |
|  | Friday | $3 / 11$ | Worksheet 10 and 11 (Attend Labs \& Upload to Canvas) |

## Spring Break: March $14^{\text {th }}$-March $20^{\text {th }}$

## Week 9:

| Lecture \# | Day | Date | Section(s) |
| :--- | :--- | :--- | :--- |
| Lecture 24 | Monday | $3 / 21$ | 15.6: Change of Variables |
| Lecture 25 | Wednesday | $3 / 23$ | 15.6: Change of Variables |
|  | Lecture 26 | Friday | $3 / 25$ |
|  | 15.4: Integration in Polar, Cylindrical, Spherical |  |  |
| Lab \# | Day | Date | Section(s) |
| Lab 17 | Monday | $3 / 21$ | Week 9 - Lab 1: Worksheet 12 |
|  | or | or |  |
|  | Tuesday | $3 / 22$ | Section 15.2 |
| Lab 18 | Wednesday | $3 / 23$ | Week 8 - Lab 2: Worksheet 12 |
|  | or | or | In-class Quiz 3: |
|  | Thursday | $3 / 24$ | Sections 15.2 and 15.3 |
| Due Dates | Day | Date | Assignments |
|  | Friday <br>  | Friday | $3 / 25$ |
|  | Achieve Homework 8: Section 15.3 | Worksheet 12 (Attend Labs \& Upload to Canvas) |  |

## Week 10:

| Lecture \# | Day | Date | Section |  |
| :---: | :---: | :---: | :---: | :---: |
| Lecture 27 | Monday | 3/28 | 15.5: Applications of Multiple Integrals |  |
| Lecture 28 | Wednesday | 3/30 | 13.1: Vector-Valued Functions and 13.2: Calculus of Vector-Valued Functions |  |
| Lecture 29 | Friday | 4/1 | 13.2: Calculus of Vector-Valued Functions |  |
| Lab \# | Day | Date | Section(s) |  |
| Lab 19 | Monday or Tuesday | $\begin{aligned} & \hline \hline 3 / 28 \\ & \text { or } \\ & 3 / 29 \\ & \hline \end{aligned}$ | Week 10-Lab 1: Worksheet 13 <br> Section 15.6 |  |
| Lab 20 | Wednesday or <br> Thursday | $\begin{aligned} & 3 / 30 \\ & \text { or } \\ & 3 / 31 \\ & \hline \hline \end{aligned}$ | Week 10-Lab 2: Worksheet 14 Section 15.4 |  |
| Due Dates | Day | Date | Assignments |  |
|  | Friday <br> Friday <br> Friday | $\begin{aligned} & \hline 4 / 1 \\ & \\ & 4 / 1 \\ & 4 / 1 \end{aligned}$ | ```Diagnostic Quiz 5 Canvas (Extra Credit) Sections 15.6, 15.4, 15.5 Achieve Homework 9: Sections 15.6 Worksheet 13 and 14 (Attend Labs & Upload to Canvas)``` |  |

## Week 11:

| Lecture \# | Day | Date | Section |
| :--- | :--- | :--- | :--- |
| Lecture 30 | Monday | $4 / 4$ | 13.3: Arc Length and Speed |
| Lecture 31 | Wednesday | $4 / 6$ | 16.1: Vector Fields |
| Lecture 32 | Friday | $4 / 8$ | 16.1: Vector Fields and 16.2: Line Integrals (If possi- <br> ble) |
| Lab \# | Day | Date | Section(s) |
| Lab 21 | Wednesday <br> or <br> Tuesday | $4 / 6$ <br> or <br> $4 / 5$ | Week 11 - Lab 1: Worksheet 15 |
| Lab 22 | Monday <br> or <br> Thursday | $4 / 4$ <br> or <br> $4 / 7$ | Week 11 - Lab 2: Worksheet 16 |
| Due Dates | Day | Date | Assignments |
|  | Friday <br> Friday | $4 / 8$ | Achieve Homework 10: Sections 15.4 and 15.5 <br> $4 / 8$ |

## Week 12:

| Lecture \# | Day | Date | Section(s) |
| :--- | :--- | :--- | :--- |
| Lecture 33 | Monday | $4 / 11$ | Midterm 2 Review |
| Midterm 2 | Tuesday | April $12^{\text {th }}$ | Sections: 14.7, 14.8, 15.1-15.6, 13.1-13.3, 16.1 <br> (Emphasis is on the material after Midterm 1.) <br> $5: 50-7: 50 ~ P M ~ R o o m: ~ B u d i g ~ 130 ~$ |
| Lecture 34 | Wednesday | $4 / 13$ | $16.2:$ Line Integrals |
| Lecture 35 | Friday | $4 / 15$ | $16.2: ~ L i n e ~ I n t e g r a l s ~ \& ~ 16.3: ~ C o n s e r v a t i v e ~ V e c-~$ <br> tor Fields |
| Lab \# | Day | Date | Section(s) |
| Lab 23 | Monday <br> or <br> Tuesday | $4 / 11$ <br> or <br> $4 / 12$ | Practice Exam |
| Lab 24 | Wednesday <br> or <br> Thursday | $4 / 13$ <br> or <br> $4 / 14$ | Week 12 - Lab 2: Worksheet 17 |
| Due Dates | Day | Date | Assignments |
|  | Friday <br> Friday | $4 / 15$ <br> $4 / 15$ | Achieve Homework 11: Section 13.1-13.3 <br> Worksheet 17 (Attend Labs \& Upload to Canvas) |
| Optional | Day | Date | Time and Place |
| Review | Saturday <br> Practice Exam <br> Sunday | $4 / 9$ <br> $4 / 10$ | 1 PM - 3:00 PM, Room: Wescoe 3140 <br> LEEP 2, Room 2415 at 7:00PM |

Week 13: (Last day to withdraw: Monday April $18^{\text {th }}$ )

| Lecture \# | Day | Date | Section(s) |  |
| :---: | :---: | :---: | :---: | :---: |
| Lecture 36 | Monday | 4/18 | 16.3: Conservative Vector Fields and 17.1: Green's Theorem |  |
| Lecture 37 | Wednesday | 4/20 | 17.1: Green's Theorem |  |
| Lecture 38 | Friday | 4/22 | 16.4: Parametrized Surfaces and Surface Integrals |  |
| Lab \# | Day | Date | Section(s) |  |
| Lab 25 | Monday or Tuesday | $\begin{aligned} & 4 / 18 \\ & \text { or } \\ & 4 / 19 \end{aligned}$ | Week 13-Lab 1: Worksheet 18 <br> Section 16.2 |  |
| Lab 26 | Wednesday or Thursday | $\begin{aligned} & 4 / 20 \\ & \text { or } \\ & 4 / 21 \\ & \hline \hline \end{aligned}$ | Week 13-Lab 2: Worksheet 19 Section 16.3 |  |
| Due Dates | Day | Date | Assignments |  |
|  | Friday Friday | $\begin{aligned} & \hline 4 / 22 \\ & 4 / 22 \\ & \hline \end{aligned}$ | Achieve 12: Sections 16.1 and 16.2 Worksheet 18 and 19 |  |

## Week 14:

| Lecture \# | Day | Date | Section(s) |
| :---: | :---: | :---: | :---: |
| Lecture 38 | Monday | 4/25 | 16.4:Parameterized Surfaces and Surface Integrals 16.5: Surface Integrals of Vector Fields |
| Lecture 39 | Wednesday | 4/27 | 16.5: Surface Integrals of Vector Fields |
| Lecture 40 | Friday | 4/29 | 16.5: Surface Integrals of Vector Fields 17.2: Stokes’ Theorem |
| Lab \# | Day | Date | Section(s) |
| Lab 26 | Monday or Tuesday | $\begin{aligned} & \hline 4 / 25 \\ & \text { or } \\ & 4 / 26 \end{aligned}$ | Week 15 - Lab 1: Worksheet 20 <br> Section 17.1 |
| Lab 27 | Wednesday or Thursday | 4/27 or $4 / 28$ | Week 15 - Lab 2: Worksheet 20 <br> In-class Quiz 4: <br> Sections 16.1, 16.2, 16.3,17.1 Study Worksheet 18, 19, 20 and Achieve 12, 13, 14 |
| Due Dates | Day | Date | Assignments |
|  | Friday Friday Friday | $\begin{aligned} & \hline 4 / 29 \\ & 4 / 29 \\ & 4 / 29 \end{aligned}$ | Achieve 13: Sections 16.2, 16.3 and 17.1 Worksheet 20 (Attend Labs \& Upload to Canvas) Diagnostic Quiz 5, - On Canvas (Extra Credit) Sections 13.1-13.3, 16.1, 16.2, 16.3 and 17.1 |

## Week 15:

| Lecture \# | Day | Date | Section |
| :---: | :---: | :---: | :---: |
| Lecture 41 | Monday | 5/2 | 17.2: Stokes' Theorem and 17.3: Divergence Theorem |
| Lecture 42 | Wednesday | 5/4 | Chapters 16 and 17 Review |
| Stop Day | Friday | 5/6 | Stop day Review |
| Lab \# | Day | Date | Section(s) |
| Lab 28 | Monday <br> or <br> Tuesday | $\begin{aligned} & \hline 5 / 2 \\ & \text { or } \\ & 5 / 3 \\ & \hline \end{aligned}$ | Week 16 - Lab 1: Worksheet 21 <br> Sections 16.4 and 16.5 |
| Lab 29 | Wednesday or Thursday | $\begin{aligned} & 5 / 4 \\ & \text { or } \\ & 5 / 5 \\ & \hline \end{aligned}$ | Week 16 - Lab 2: Worksheet 22 <br> Sections 17.2 and 17.3 |
| Due Dates | Day | Date | Assignments |
|  | Thursday <br> Thursday <br> Thursday | $\begin{aligned} & \hline 5 / 5 \\ & \\ & 5 / 5 \\ & 5 / 5 \end{aligned}$ | Diagnostic Quiz 6 Canvas (Extra Credit) <br> Sections 16.4, 16.5, 17.2, 17.3 <br> Achieve 14: Sections 16.5, 17.2 and 17.3 <br> Worksheet 21 and 22 (Attend Labs \& Upload to Canvas) |
| Optional | Day | Date | Time and Place |
| Stop Day Review Help room | Friday | 5/6 | 1-3 PM Budig 130 Closes on Friday 5/6, but We reopen on Monday 12/13 10AM- a little past 3PM |

## Final Exams Week :

| Final Exam | Tuesday, May $10^{t h}$ | $4: 30-7$ PM |
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