

# Math 3270

## Advanced Math for Engineers section 1

### Instructor Info —



Dorsa Ghoreishi



Office Hrs: Mon. 2:10-3, Tus. 1-2 (virtual), Wed. 1-2



Ritter Hall 203



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### Course Info —



MWF



1:10-2:00 PM



Ritter Hall 346

### Course Description

The focus of MATH 3270 is on advanced concepts of mathematics used in engineering, such as vector algebra, matrix algebra, systems of linear equations, eigenvalues and eigenvectors, systems of differential equations, vector differential calculus, divergence, gradient and curl, vector integral calculus, integral theorems, and Fourier series with applications to partial differential equations.

#### Text Book

Advanced Engineering Mathematics, 8th Edition, by Peter O'Neil, Cengage, 2018. ISBN-13: 978-1-305-63515-9.

### Prerequisites

Students entering MATH 3270 are expected to have earned a grade of C- or better in MATH 3550.

### Grading Scheme

60%	<b>Exams (20% each)</b>
20%	<b>Quizzes</b>
15%	<b>Homework</b>
5%	<b>Attendance/Participation</b>

Grade cutoffs can change depending on the class average. Most likely the boarder line between a  $B^+$  and a  $A^-$  will be around %80 and the boarder line between  $C^+$  and  $B^-$  will be around %60.

### Quizzes

Quizzes will be given throughout the semester either in class or take home. You will need to go to the website **gradescope** and sign in using the **entry code:** XXXXXXXXXX. If you are not able to make it to class on a quiz day, please contact me before the class.

### Homework

Homework assignments will be uploaded on gradescope. Please follow the tentative calendar to learn about the due dates. There will be a point deduction for each day that it is overdue. You are encouraged to work on the problems with your classmates but you will need to write your answers individually. Note that these homework assignments are very important to test your understanding of the material so take them seriously.

### Exams

There will be two fifty-minute midterm exams and a one-hour, fifty-minute final exam. The tentative time and coverage of each exam is:

- **Exam 1:** Friday, October 8th , Chapters 10-12
- **Exam 2:** Wednesday, October 27th, Chapters 17, 18, 5
- **Exam 3:** Wednesday, December 15 from 12:00pm-1:50 pm, Chapters 13, 15 and 16

The announcement about the material of each exam will be posted a week prior to the exam date.

## Attendance

The health and well-being of SLU's students, staff, and faculty are critical concerns. Accordingly, the following University policy statements on in-person class attendance are designed to preserve and advance the collective health and well-being of our institutional constituencies.

1. Students who exhibit any potential COVID symptoms (those that cannot be attributed to some other medical condition the students are known to have, such as allergies, asthma, etc.) shall absent themselves from any in-person class attendance or in-person participation in any class-related activity until they have been evaluated by a qualified medical official. Students should contact the University Student Health Center for immediate assistance.
2. Students who exhibit any potential COVID symptoms (those that cannot be attributed to some other medical condition the students are known to have, such as allergies, asthma, etc.) but who feel well enough to a) attend the course synchronously in an online class session or b) participate in asynchronous online class activities, are expected to do so. Those who do not feel well enough to do so should absent themselves accordingly.
3. Students (whether exhibiting any of potential COVID symptoms or not, and regardless of how they feel) who are under either an isolation or quarantine directive issued by a qualified health official must absent themselves from all in-person course activity per the stipulations of the isolation or quarantine directive. They are expected to participate in synchronous or asynchronous online class activities as they feel able to do so, or absent themselves accordingly.
4. Students are responsible for notifying each instructor of an absence as far in advance as possible; when advance notification is not possible, students are responsible for notifying each instructor as soon after the absence as possible.
5. As a temporary amendment to the current University Attendance Policy, all absences due to illness or an isolation/quarantine directive issued by a qualified health official shall be considered "Authorized" absences (effective August 2020 through May 2021).

## Technology

Any type of calculator is fine. However, calculator apps, cell phones, and various other electronics will not be allowed on exams.

## Mandatory Statement on Face Masks

The University's Interim Policy on Face Masks governs all students, faculty, staff, and campus visitors in all University-owned, leased, or operated facilities. All persons physically present in any such University facility associated with this course shall comply fully with this policy at all times. Masks must be worn before entry to all such University facilities (as well as outdoors on all University property when six feet of distance is unpredictable or cannot be maintained). Saint Louis University is committed to maintaining an inclusive and accessible environment. Individuals who are unable to wear a face mask due to medical reasons should contact the Office of Disability Services or Human Resources to initiate the accommodation process identified in the University's ADA Policy. Inquiries or concerns may also be directed to the Office of Institutional Equity and Diversity. Notification to instructors of SLU-approved ADA accommodations should be made in writing prior to the first class session in any term (or as soon thereafter as possible). As the instructor of this course, I shall comply fully with SLU's policy and all related ADA regulations. Students who attempt to enter a classroom without wearing masks will be asked by the instructor to wear masks prior to entry. Students who remove their masks at any time during a class session will be asked by the instructor to resume wearing their masks.

**Note:** Accordingly, no consumption of any food will be allowed in class. Students who do not comply with a request by a SLU instructor to wear a mask in accordance with the University's Interim Policy on Face Masks may be subject to disciplinary actions per the rules, regulations, and policies of Saint Louis University, including but not limited to the Student Handbook. Non-compliance with this policy may result in disciplinary action, up to and including any of the following:

- dismissal from the course(s)
- removal from campus housing (if applicable)
- dismissal from the University

To immediately protect the health and well-being of all students, instructors, and staff, instructors reserve the right to cancel or terminate any class session at which any student fails to comply with faculty or staff request to wear a mask in accordance with University policy.

Students are strongly encouraged to identify to their instructor any student or instructor not in compliance. Non-compliance may be anonymously reported via the SLU Integrity Hotline at 1-877-525-5669 (or confidentially via the Integrity Hotline's website at <http://www.lighthouse-services.com/slu>).

## Drops/Withdrawals

You are responsible to follow the class schedule and learn about the deadlines in case you need to drop or withdraw from the course. Feel free to contact me if you have any questions regarding this during the semester.

## Academic Integrity

Academic integrity is honest, truthful and responsible conduct in all academic endeavors. The mission of Saint Louis University is “the pursuit of truth for the greater glory of God and for the service of humanity.” Accordingly, all acts of falsehood demean and compromise the corporate endeavors of teaching, research, health care, and community service through which SLU fulfills its mission. The University strives to prepare students for lives of personal and professional integrity, and therefore regards all breaches of academic integrity as matters of serious concern. The full University-level Academic Integrity Policy can be found on the Provost’s Office website at: <https://www.slu.edu/provost/policies/academic-and-course/policyacademic-integrity6-26-2015.pdf>.

Additionally, each SLU College, School, and Center has its own academic integrity policies, available on their respective websites.

## Disability Accommodations

Students with a documented disability who wish to request academic accommodations must formally register their disability with the University. Once successfully registered, students also must notify their course instructor that they wish to use their approved accommodations in the course. Please contact Disability Services to schedule an appointment to discuss accommodation requests and eligibility requirements. Most students on the St. Louis campus will contact Disability Services, located in the Student Success Center and available by email at [Disabilityservices@slu.edu](mailto:Disabilityservices@slu.edu) or by phone at 314.977.3484. Once approved, information about a student’s eligibility for academic accommodations will be shared with course instructors by email from Disability Services and within the instructor’s official course roster. Students who do not have a documented disability but who think they may have one also are encouraged to contact to Disability Services. Confidentiality will be observed in all inquiries.

Note: due to accreditation requirements, regulatory differences, and/or location-specific resources, the School of Law, the School of Medicine, and SLU Madrid have their own standard language for syllabus statements related to disability accommodations. Faculty in those units should seek guidance for syllabus requirements from their dean’s office.

## Title IX

Saint Louis University and its faculty are committed to supporting our students and seeking an environment that is free of bias, discrimination, and harassment. If you have encountered any form of sexual harassment, including sexual assault, stalking, domestic or dating violence, we encourage you to report this to the University. If you speak with a faculty member about an incident that involves a Title IX matter, that faculty member must notify SLU’s Title IX Coordinator and share the basic facts of your experience. This is true even if you ask the faculty member not to disclose the incident. The Title IX Coordinator will then be available to assist you in understanding all of your options and in connecting you with all possible resources on and off campus. Anna Kratky is the Title IX Coordinator at Saint Louis University (DuBourg Hall, room 36; [anna.kratky@slu.edu](mailto:anna.kratky@slu.edu); 314-977-3886). If you wish to speak with a confidential source, you may contact the counselors at the University Counseling Center at 314-977-TALK or make an anonymous report through SLU’s Integrity Hotline by calling 1-877-525-5669 or online at <https://www.lighthouse-services.com/StandardCustomURL/LHILandingPage.asp>. To view SLU’s policies, and for resources, please visit the following web addresses: <https://www.slu.edu/here4you> and <https://www.slu.edu/general-counsel>.

**IMPORTANT UPDATE:** SLU’s Title IX Policy (formerly called the Sexual Misconduct Policy) has been significantly revised to adhere to a new federal law governing Title IX that was released on May 6, 2020. Please take a moment to review the new policy and information on the following web address: <https://www.slu.edu/here4you>. Please contact the Anna Kratky, the Title IX Coordinator, with any questions or concerns. Note: due to accreditation requirements, regulatory differences, and/or location-specific resources, the School of Law, the School of Medicine, and SLU Madrid have their own standard language for syllabus statements related to Title IX. Faculty in those units should seek guidance for syllabus requirements from their dean’s office.

## Tentative Schedule Fall 2021:

MONDAY	WEDNESDAY	FRIDAY
Aug 23rd <b>1</b>	25th <b>2</b> 10.1	27th <b>3</b> 10.1 and 10.2
30th <b>4</b> 10.2 and 10.3	Sep 1st <b>5</b> 10.3 and 10.4	3rd <b>6</b> 10.4 and 10.5 <u>Quiz #1</u>
6th <b>7</b> <i>No Class</i> <i>Labor Day</i>	8th <b>8</b> 10.5 and 10.6	10th <b>9</b> 11.1 <u>Quiz #2</u>
13th <b>10</b> 11.1	15th <b>11</b> 11.2 HW #1 Due	17th <b>12</b> 11.3 <u>Quiz #3</u>
20th <b>13</b> 11.4	22nd <b>14</b> 11.6	24th <b>15</b> 11.6 and 12.1 <u>Quiz #4</u>
27th <b>16</b> 12.2	29th <b>17</b> 12.3 HW #2 Due	Oct 1st <b>18</b> 12.3
4th <b>19</b> review/ catch up HW #3 Due	6th <b>20</b> 17.1	8th <b>21</b> <b>Exam #1</b>
11th <b>22</b> 17.1 and 17.3	13th <b>23</b> 17.4	15th <b>24</b> 18.1 <u>Quiz #5</u>

MONDAY		WEDNESDAY		FRIDAY	
18th 18.1, 5.1	<b>25</b>	20th 5.1 and 5.2	<b>26</b>	22nd 5.2 and 5.3 <u>Quiz #6</u>	<b>27</b>
25th catch up/review HW #4 Due	<b>28</b>	27th <b>Exam #2</b>	<b>29</b>	29th <i>No Class</i> <i>Fall Break</i>	<b>30</b>
<div>Nov 1st</div> 13.1 and 13.2	<b>31</b>	3rd 13.2	<b>32</b>	5th 13.3 <u>Quiz #7</u>	<b>33</b>
8th 15.1	<b>34</b>	10th 15.1 and 15.2	<b>35</b>	12th 15.3 <u>Quiz #8</u>	<b>36</b>
15th 15.4 and 16.1 HW #5 Due	<b>37</b>	17th 16.1 and 16.2	<b>38</b>	19th 16.2 <u>Quiz #9</u>	<b>39</b>
22nd 16.3	<b>40</b>	24th <i>No Class</i> <i>Thanksgiving</i>	<b>41</b>	26th <i>No Class</i> <i>Thanksgiving</i>	<b>42</b>
29th 16.4	<b>43</b>	<div>Dec 1st</div> 16.5 HW #6 Due	<b>44</b>	3rd 16.6	<b>45</b>
6th 16.7	<b>46</b>	8th review/catch up	<b>47</b>	10th review/catch up <u>Quiz #10</u> <i>Last Day of Class</i>	<b>48</b>