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| Instructor Richard Guarino | Phone (214) 768-4961 | Email r Guarino@smu.edu | Office 26A Fondren Science |
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Office Hours: Monday 11:00 a.m. to noon and by appointment.
All office hours to be held via Zoom meetings.

Laboratory Room: Fondren Science 32

Laboratory Meeting Times:

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|----|----|---|------------|----|-----------|
| 10 | -- | T | 12:30 p.m. | -- | 3:15 p.m. |
| 11 | -- | T | 3:30 p.m. | -- | 6:15 p.m. |
| 12 | -- | W | 12:00 p.m. | -- | 2:45 p.m. |
| 14 | -- | R | 12:30 p.m. | -- | 3:15 p.m. |
| 15 | -- | R | 3:30 p.m. | -- | 6:15 p.m. |
| 16 | -- | F | 12:00 p.m. | -- | 2:45 p.m. |

Course Format: High Person High Touch with a Fully Remote Component:

There are two components to each physics laboratory; one hour is reserved for co-operative problem solving the remaining time is dedicated to the lab component. The co-op portion is done using Zoom with breakout rooms where students in the group can use a whiteboard, share their screen and use the chat feature. One person is selected in the group to complete and submit the solution form in Canvas.

All of the labs have digital components in Canvas that are to be reviewed by all lab students (In-Person & Remote) before coming to their scheduled labs. The components include a lab video, lab manual, lab notes, an equipment document, a spreadsheet for recording measurements and a report template. Remote students will be provided with a measurement set. Reports are due at midnight, but can be submitted without penalty up to 24 hours later.

Students will be divided into four cohorts (A, B, C & Remote, to be assigned in Canvas). The 3 hour lab period will be divided into three 1 hour data taking sessions. Cohort A will have hour 1, cohort B will have hour 2 and cohort C will have hour 3. Cohorts will have at most 9 students, 3 per lab table. The Remote cohort will download a remote data set in Canvas on the day of the lab.

The students will wash/sanitize their hands and wear face coverings upon entry and will be seated at the designated places at the lab tables. Everyone will practice social distancing while in the lab rooms. The Equipment will be set up before they arrive, and they will commence taking measurements. Each table will have a lab student check list to be completed before leaving the lab. The list includes an affirmation that the students have wiped down high touch areas on the lab apparatus and table. Lab TA's will verify completion of the check list, lab students will throw away the completed checklist on their way out of the lab.

Student Learning Outcomes:

- **Common Curriculum:** (ES) Students will demonstrate an ability to engage in scientific inquiry.
- **Course specific:** Students understand and apply error analysis to measurements in mechanics.

[Laboratory Rules:](#)

[Mechanics Laboratory Manual:](#)

Required Items:

- Laptop/Notebook with Office 365.
- [An Introduction to Error Analysis](#) 2nd Edition by John R. Taylor. ISBN: 093570275X
- Any scientific calculator.

Pre-Lab Exercises & Reading Quizzes: due **BEFORE** the Lab

Make-up Labs: You must present me with a verifiable excuse **in writing**. Students with a valid excuse will be permitted to make up **one** lab remotely.

[Generic Grading Rubric](#)

Grading:

- Lab write-ups - 60% (drop lowest)
- Co-op Exercises - 10% (drop lowest)
- Pre-Lab Exercises & Reading Quizzes - 10% (drop lowest)
- Final Practicum - 20%

Letter Grade Break Points:

91.5 < A < 100
87.5 < A- < 91.5
83.5 < B+ < 87.5
79.0 < B < 83.5
75.0 < B- < 79.0
71.0 < C+ < 75.0
62.5 < C < 71.0
50.0 < D < 62.5
0.0 < F < 50.0

University Holidays:

- NOTE: Spring Break has been suspended for spring 2021.
- April 2, Friday: Good Friday. University offices closed.

[Official University Calendar](#)

[Class Schedule](#)

Error Analysis and Significant Figures in the Lab

Error on the Mean – A Derivation

Disability Accommodations: Students needing academic accommodations for a disability must first register with Disability Accommodations & Success Strategies (DASS). Students can call 214-768-1470 or visit: <http://www.smu.edu/Provost/ALEC/DASS> to begin the process. Once registered, students should then schedule an appointment with the professor as early in the semester as possible, present a DASS Accommodation Letter, and make appropriate arrangements. Please note that accommodations are not retroactive and require advance notice to implement.

Religious Observance: Religiously observant students wishing to be absent on holidays that require missing class should notify their professors in writing at the beginning of the semester, and should discuss with them, in advance, acceptable ways of making up any work missed because of the absence. (See University Policy No. 1.9.)

Excused Absences for University Extracurricular Activities: Students participating in an officially sanctioned, scheduled University extracurricular activity should be given the opportunity to make up class assignments or other graded assignments missed as a result of their participation. It is the responsibility of the student to make arrangements with the instructor prior to any missed scheduled examination or other missed assignment for making up the work. (University Undergraduate Catalogue)

Covid-19 Attendance Statement

Students who are experiencing COVID-19 symptoms or who have been notified through contact tracing of potential exposure and need to self-quarantine or isolate must follow the protocols laid out in SMU's Contact Tracing Protocol. To ensure academic continuity, students in these situations will not be penalized and will be provided appropriate modifications to assignments, deadlines, and testing. Please also note that SMUFlex classes might, in rare circumstances, go remote for two-week periods to accommodate COVID-related issues. To ensure these necessary accommodations, affected students must:

- Provide as much advance notification as possible to the instructor about a change in circumstances. Students must notify their instructor about a potential absence as well as plans for a return to class. For cases in which students test positive for COVID-19, they should fill out a [CCC form at this link](#).
- Communicate promptly with the instructor to establish, as necessary, alternative assignments and/or changes to deadlines and exams. Students are then responsible for meeting the expectations laid out in these alternative arrangements.
- Continue participation in class via Zoom, as health circumstances permit. Attend class regularly, when not in a situation outlined above, in accordance with safety measures laid out by SMU CAN in the [Pledge to Protect](#) (including wearing masks, maintaining social distancing, and cleaning personal space after class). In-person participation in SMUFlex classes is required on students assigned red/blue rotation days except in cases when students are experiencing illness, are in self-quarantine or in isolation.

- Students facing multiple or extended COVID-19-related absences or illness can work with the Office of the Dean of Students to consider options such as fully remote learning or medical withdrawal.

This policy, aligned with the SMU Honor Code and the SMU Pledge to Protect, relies on mutual trust and respect between students and faculty to ensure safety, academic integrity, and instructional continuity.