This course syllabus is intended as a set of guidelines for PHYS 2426. Both North Lake College and your instructor reserve the right to make modifications in content, schedule, and requirements as necessary to promote the best education possible within prevailing conditions affecting this course.

Instructor Information:

Dr. Viola Ruck
vruck@dcccd.edu
972-273-3244
Office Location: C303 B
Office Hours: M, T, W, R 12:30 PM - 2:30 PM

Course Information
Course title: General Physics
Course number: 2426
Section number: 7111
Credit hours: 4.00
Class meeting time and room: T R, 9:30 AM - 10:50 AM in C227
Course description: This course is a calculus based Physics class that meets laboratory science requirements for engineering majors or other science majors needing calculus-based general physics.
Course prerequisites: PHYS 2425 and Math 2513 within the past 3- years

Required or Recommended Textbooks and Materials
Course Objectives

The objective of the study of a natural sciences component of a core curriculum is to enable the student to understand, construct, and evaluate relationships in the natural sciences, and to enable the student to understand the bases for building and testing theories.

1. To obtain an understanding of the basic physical laws of the universe.
2. To obtain a background for future study in physics, engineering, and chemistry programs.
3. To learn problem solving skills.
4. To understand and apply method and appropriate technology to the study of natural sciences.
5. To recognize scientific and quantitative methods and the differences between these approaches and the other methods of inquiry and to communicate findings, analyses, and interpretation both orally and in writing.
6. To identify and recognize the differences among competing scientific theories.
7. To demonstrate knowledge of the major issues and problems facing modern science, including issues that touch upon ethics, values, and public policies.
8. To demonstrate knowledge of the interdependence of science and technology and their influence on, and contribution to, modern culture.

Specific Course Learning Outcomes

Following the successful completion of this course, you will:

1. Perform calculations related to topics included in PHYS 2526:
   a. Be able to express, interpret and utilize relationships between concepts of physics.
   b. Solve problems using metric and SI units.
   c. Utilize data given in problems to draw graphs and interpret the results.
2. Describe the motion of objects in nature utilizing the laws of nature.
3. Define electric charge and electric field, electric current, resistance of a conductor, determine methods of measurements and perform experiments involving these concepts.
4. Determine the relationship between electric force and field, magnetic force and magnetic field and predict the outcome of electric forces acting on objects.
5. Determine the relationship between pressure, volume and temperature of an ideal gas and perform related calculations.
6. Analyze the relationship between electric current and resistance of objects.
7. Classify types of electric charges and determine the relevant charging (induction or conduction) of a conductor.
8. Define different types of energy and recognize the environmental issues related to energy.
9. Identify what forces act on an object and calculate how these forces will influence its motion when currents flow through conductors.
10. Perform measurements using laboratory equipment as well as everyday objects to determine quantitatively the outcome using the laws of physics.
Course Outline: See Appendix A

Means of Assessment of Course Learning Outcomes

There will be four tests (including the final exam) in this course. The final exam is comprehensive. The test’s format, (short answer, problems etc) will be announced before the test in question.

A presentation based on a subject from your life and explained with physics laws and principles, using research and analysis of printed materials as well as online sources is required. It will be graded and has the same weight as a test. The grade of the presentation will reflect the student’s:

1. Ability to analyze and interpret printed materials for the research done.
2. Ability to produce clear, correct and coherent prose adapted to the purpose and audience.
3. Ability to communicate orally in clear, coherent, and persuasive language.
4. Ability to think and analyze at a critical level. Critical thinking embraces methods of applying both qualitative and quantitative skills analytically and creatively to the subject matter in order to evaluate arguments and to construct alternative strategies.
5. Ability to use computer based technology in communication, problem solving, and acquiring information.
6. Ability to listen to the questions posed by the audience, analyze and interpret his research to respond to the questions asked in a coherent, clear language.

Homework assignments will not be collected. Instead, a few homework items will be part of the corresponding exam. The students must have their own scientific calculators while taking a test. Passing calculators is not allowed, and having a cell phone on the table is not allowed.

LABORATORY GRADE

The lab will be done in teams. The grade is determined by the accuracy and quality of the lab work and your participation in the team. Each team will present a laboratory report that is clear and concise and follows the guidelines handed out in the laboratory. Every team member is responsible for the report, in case of absence of the team member responsible for the laboratory report, the other team members should hand in the report.

Attendance Policy

Attendance in all class lectures and labs is mandatory in order to succeed in this course. You are encouraged to ask questions and to participate in class discussions. You are expected to be active in the laboratory and during class activities. A student who misses unexcused more than three classes will not be able to get a grade A.

PARTICPATION

Science is a collaborative effort and students are encouraged to ask questions, give feedback and share their views and experiences.

MAKE UP POLICY

If a student misses a test, he or she will be able to make it up, provided that a valid, verifiable, written excuse is presented to the instructor. The test grade will be an “F” if the student fails to take the test at the rescheduled time. In any case, the student is strongly urged to talk to the instructor about his/her particular situation. If a student misses a lab, he or she should talk to the instructor in order to make-up the lab. Failure to make up a lab will result in getting a zero for that lab.
Evaluation Procedures

The four test and the presentation will be evaluated with grades, considering the correctness of the answers, the use of graphs where applicable and the clarity and completeness of the overall test / presentation. The organization of the answers as well as correctness of the spelling of the physics concepts will be taken into account.

The laboratory reports will be graded on completeness, correctness and clarity, as well as organizing the data in a clear and concise way.

Exams and Assignments

Four tests and a presentation will have the same weight in grading. The lab reports will form a separate grade.

Grading Scale

Physics 2426 is taught in the traditional lecture-lab method. The material will be discussed in class with ample opportunity for class discussion, questions, and demonstrations. In lab, ideas previously discussed in class will be examined in detail. A scientific calculator is required. Your final grade will be determined as follows:

\[
\text{Final Grade} = 0.8 \text{ Tests} + 0.2 \text{ Laboratory}
\]

<table>
<thead>
<tr>
<th>Final Average</th>
<th>Letter Grade</th>
</tr>
</thead>
<tbody>
<tr>
<td>90-100</td>
<td>A</td>
</tr>
<tr>
<td>80-89</td>
<td>B</td>
</tr>
<tr>
<td>70-79</td>
<td>C</td>
</tr>
<tr>
<td>60-69</td>
<td>D</td>
</tr>
<tr>
<td>0-59</td>
<td>F</td>
</tr>
</tbody>
</table>

Discipline/ Course/ Department/Policies:

Classroom Etiquette:
No cell phones or beeping devices allowed.
Taping is not allowed unless permission is obtained from the instructor.
Please be courteous to others, collegiate attitude is expected from all students.

Late paper policy: submit all papers on time. Your instructor is not required to accept a late paper.
INSTITUTIONAL POLICIES

ACADEMIC DISHONESTY

The Student Code of Conduct prohibits academic dishonesty and prescribes penalties for violations. According to this code, which is printed in the college catalog, "academic dishonesty", includes (but is not limited to) cheating, fabrication, facilitating academic dishonesty, plagiarism, and collusion).

1) The Vice-President of Academic & Student Affairs may initiate disciplinary proceedings against a student accused of academic dishonesty.

2) Academic dishonesty includes, but is not limited to, cheating on a test, plagiarism and collusion.

3) Cheating on a test includes:
   a) Copying from another student’s test paper;
   b) Using, during a test, materials not authorized by the person giving the test;
   c) Collaborating with another student during a test without permission to do so;
   d) Knowingly using, buying, selling, stealing, transporting, or soliciting in whole or part the contents of an un-administered test.
   e) Substituting for another student, or permitting another student to substitute for you to take a test; and
   f) Bribing another person to obtain an unadministered test or information about an unadministered test.

4) “Plagiarism” means the appropriation of another’s work (ideas and/or words) and the unacknowledged incorporation of that work in one’s written work offered for credit. Quotes not identified as quotes constitute a form of plagiarism even if the borrowed ideas are documented.

5) “Collusion” means an unauthorized collaboration with another person in preparing written work offered for credit.

Academic dishonesty may result in the following sanctions, including, but not limited to:
1. A grade of zero or a lowered grade on the assignment or course.
2. A reprimand.
3. Suspension from the college.

NOTIFICATION OF ABSENCE DUE TO RELIGIOUS HOLY DAY(S)

Students who will be absent from class for the observance of a religious holiday must notify the instructor in advance. Please refer to the Student Obligations section of the college catalog for more explanation. You are required to complete any assignments or take any examinations missed as a result of the absence within the time frame specified by your instructor.
REQUIREMENTS OF THE AMERICANS WITH DISABILITIES ACT (A430)
North Lake College provides academic accommodations to students with disabilities, as defined under ADA law. It is the student's choice and responsibility to initiate any request for accommodations. If you are a student with a disability who requires such ADA accommodations, please contact North Lake College's Disability Services Office in person (A430) or by phone at 972-273-3165.
http://www.northlakecollege.edu/resources/disability.html

ADMINISTRATIVE WITHDRAWAL
Students with valid extenuating circumstances may be eligible for an administrative withdrawal by the Dean of the Division in which the course or courses are taught. An administrative withdrawal will not be awarded to students who simply fail to withdraw prior to the last day to receive a “W.” The request for an administrative withdrawal must be made in writing to the Dean of the Division with any supporting documentation attached. This must occur before the last official day of the semester.

DROP POLICY
If you are unable to complete this course, you must officially withdraw by Thursday, November 15, 2012. Withdrawing is a formal procedure which you must initiate; your instructor cannot do it for you. All Dallas County Community Colleges charge a higher tuition rate to students registering the third time for a course. This rule applies to the majority of credit and Continuing Education / Workforce Training courses. Developmental Studies and some other courses are not charged a higher tuition rate. Third attempts include courses taken at any DCCCD college since the fall 2002 semester. For further information, go online to: http://www.DCCCD.edu/thirdcourseattempt.

STOP BEFORE YOU DROP
For students who enrolled in college level courses for the first time in the fall of 2007, Texas Education Code 51.907 limits the number of courses a student may drop. You may drop no more than 6 courses during your entire undergraduate career unless the drop qualifies as an exception. Your campus counseling/advising center will give you more information on the allowable exceptions. Remember that once you have accumulated 6 non-exempt drops, you cannot drop any other courses with a “W”. Therefore, please exercise caution when dropping courses in any Texas public institution of higher learning, including all seven of the Dallas County Community Colleges. For more information, you may access: https://www1.dcccd.edu/coursedrops
FINANCIAL AID STATEMENT
Students who are receiving any form of financial aid should check with the Financial Aid Office prior to withdrawing from classes. Withdrawals may affect your eligibility to receive further aid and could cause you to be in a position of repayment for the current semester. Students who fail to attend or participate are also subject to this policy.

To apply for financial aid in the DCCCD, students must complete FAFSA (Free Application for Federal Student Aid) on the web at: http://www.fafsa.ed.gov

COUNSELING SERVICES (A430)
Counseling services for personal issues are provided to all students currently enrolled at North Lake College. These services are provided by licensed professionals who are bound by confidentiality (within ethical parameters) at no charge. With the assistance of a counselor, students are able to identify, understand, resolve issues and develop appropriate skills. To make an appointment call 972-273-3333 or visit A 430.

THE ACADEMIC SKILLS CENTER (A332)
The Academic Skills Center (ASC) is designed to provide assistance to students in the following areas:

- Labs for students enrolled in foreign language, Developmental Reading, and ESOL courses. One-on-one tutoring is available.
- The Writing Center can help students clarify writing tasks, understand instructors’ requirements, develop and organize papers, explore revision options, detect grammar and punctuation errors, and properly use and document sources. Rather than merely editing or “fixing” papers, tutors focus on helping students develop and improve their writing skills.
- The Online Writing Lab (OWL) allows students to submit papers to our writing tutors electronically and get feedback within 24-72 hours. The OWL can be accessed through eCampus. After logging on to eCampus, click on the Community Tab at the top. Type “Owl” in the search field and click “Go.” Next, click on the double drop-down arrows next to “NLC-OWL2,” and then click on “Enroll.” Once enrolled, students can receive services from the OWL.

For more information or to schedule a tutoring appointment, come by A-332 or call 972-273-3089.
TESTING CENTER (A 425)
Monday-Thursday: 8:30 a.m. – 8:00 p.m.
   No tests will be issued after 7:00 p.m. Other cut-off times may be in effect for specific exams by the instructor’s direction. All exams collected at 8:00 p.m.
Friday-Saturday: 8:30 a.m.-3:30 p.m.
   No tests will be issued after 2:30 p.m. Other cut-off times may be in effect for specific exams by the instructor’s direction. All exams collected at 3:30 p.m.
Sunday – CLOSED

If you instructor requires you to complete an exam in the Testing Center, be sure to have the following information when you request you test:
   1. Instructor’s name
   2. Subject, course number, and section number (exp: Speech 1311.7011)
   3. Exam number (1st, 2nd, 3rd, etc.)
   4. Exam deadline (Get this information from your instructor. The testing staff cannot look up this information on computers).

You should also bring the following supplies:
   1. Pencil
   2. Scantron answer sheet
   3. A Test Request Form must be completed before entering the Testing Center.
   5. Government or school issued photo identification is required & enforced.

You may not bring personal items into the Testing Center. This includes bags, cell phones, and pagers.

Please show courteous and cooperative behavior while using the services provided by the Testing Center.

DO NOT bring children to the Testing Center. You must make arrangements for the care of your children prior to your exam date. The police department will be notified of any unattended children.

DO NOT take any testing materials with you when you leave the Testing Center. This includes the test, answers, charts, scratch paper. These items will be attached to your test.

Questions? Please visit the Testing Center (A 425) or call 972-273-3160.
Exemplary Educational Objectives

The following Exemplary Educational Objectives have been identified by the Texas Higher Education Coordinating Board and the DCCCD as important objectives to be developed and enhanced by the specific learning activities in Physics courses.

The objective of the study of a natural sciences component of a Core Curriculum is to enable the student to understand, construct, and evaluate relationships in the natural sciences, and to enable the student to understand the bases for building and testing theories.

1. To understand and apply method and appropriate technology to the study of natural sciences.
2. To recognize scientific and quantitative methods and the differences between these approaches and other methods of inquiry and to communicate findings, analyses, and interpretation both orally and in writing.
3. To identify and recognize the differences among competing scientific theories.
4. To demonstrate knowledge of the major issues and problems facing modern science, including issues that touch upon ethics, values, and public policies.
5. To demonstrate knowledge of the interdependence of science and technology and their influence on, and contribution to, modern culture.

Core Curriculum Intellectual Competencies

This course reinforces all of the 6 Core Curriculum Intellectual Competencies defined by the Texas Higher Education Coordinating Board. The CCIC’s identified by the DCCCD which are reinforced by PHYS 2426 are as follows:

1. **READING**: Reading at the college level means the ability to analyze and interpret a variety of printed materials -- books, articles, and documents.
2. **WRITING**: Competency in writing is the ability to produce clear, correct, and coherent prose adapted to purpose, occasion, and audience.
3. **SPEAKING**: Competence in speaking is the ability to communicate orally in clear, coherent and persuasive language appropriate to purpose, occasion and audience.
4. **LISTENING**: Listening at the college level means the ability to analyze and interpret various forms of spoken communication.
5. **CRITICAL THINKING**: Critical thinking embraces methods of applying both qualitative and quantitative skills analytically and creatively to subject matter in order to evaluate arguments and to construct alternative strategies.
6. **COMPUTER LITERACY**: Computer literacy at the college level means the ability to use computer-based technology in communicating, solving problems, and acquiring information.
The following table provides examples on how the Course Outcomes, Educational Exemplary Objectives and the Core Curriculum Intellectual Competencies are incorporated into the course.

**Learning Activities, Outcomes, and Assessment**

<table>
<thead>
<tr>
<th>Learning Activity</th>
<th>Learning Outcomes</th>
<th>Assessment</th>
<th>EEO’s and CCIC’s</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Learning Activity: Working in groups students will determine the charge both on the inside and outside surface of a metal sphere in which a charge is introduced by applying Gauss' law.</td>
<td>a. <strong>Learning Outcomes</strong>: Students will demonstrate application of Gauss’ law to problems and be able to apply them to the situation stated by the problem.</td>
<td>b. <strong>Assessment</strong>: Each group will reach the correct answer, checked by the instructor in a classroom assignment.</td>
<td>EEO 1, 2, 5 and CCIC 1, 2, 3, 4, 5 Gen Ed SLO 1, 2, 4, 6</td>
</tr>
<tr>
<td></td>
<td></td>
<td>c. <strong>EEO’s and CCIC’s</strong>: EEO 1, 2, 5 and CCIC 1, 2, 3, 4, 5 Gen Ed SLO 1, 2, 4, 6</td>
<td></td>
</tr>
<tr>
<td>2. Learning Activity: Individual presentation of a research topic in physics in the student’s everyday life.</td>
<td>a. <strong>Learning Outcomes</strong>: Students will recognize and apply their knowledge to an aspect in their life that can be explained with the physics concepts learned and present their research on the subject to the class.</td>
<td>b. <strong>Assessment</strong>: The student will present a PowerPoint presentation on the subject of their choice related to technology or science and will show how physics can explain what happens and why, in a presentation, that should be well organized, concise and clear. The student is successful if the class can respond to the questions posed by the class and instructor.</td>
<td>EEO 1, 2, 3, 4, 5 and CCIC 1, 2, 3, 4, 5, 6 Gen Ed SLO 1, 2, 3, 4, 5, 6</td>
</tr>
<tr>
<td>3. Learning Activity: Students will form pairs and compare their hypothesis to current induced in transformers based on electromagnetic induction in different situation of a laboratory experiment.</td>
<td>a. <strong>Learning Outcomes</strong>: Students will analyze what the data of their experiment shows and identify the number of loops in the primary and secondary circuit to realize their goal.</td>
<td>b. <strong>Assessment</strong>: Students will present the result in writing and are successful when the right number of loops of a transformer in chosen.</td>
<td>EEO 1, 2, 3 and CCIC 1, 2, 3, 4, 5 Gen Ed SLO 1, 2, 3, 4, 5</td>
</tr>
</tbody>
</table>
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Home work problems will be assigned at the end of each class.

<table>
<thead>
<tr>
<th>Date</th>
<th>Day</th>
<th>Topic</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aug. 28</td>
<td>T</td>
<td>Units and measurements.</td>
</tr>
<tr>
<td>Aug. 30</td>
<td>R</td>
<td>Chapter 21, Electric Charge</td>
</tr>
<tr>
<td>Sep. 4</td>
<td>T</td>
<td>Chapter 22, Electric Fields</td>
</tr>
<tr>
<td>Sep. 6</td>
<td>R</td>
<td>Chapter 22, Electric Fields</td>
</tr>
<tr>
<td>Sep. 11</td>
<td>T</td>
<td>Chapter 23, Gauss’ Law</td>
</tr>
<tr>
<td>Sep. 13</td>
<td>R</td>
<td>Chapter 23, Gauss’ Law</td>
</tr>
<tr>
<td>Sep. 18</td>
<td>T</td>
<td>Chapter 24, Electric Potential</td>
</tr>
<tr>
<td>Sep. 20</td>
<td>R</td>
<td>Chapter 24, Electric Potential</td>
</tr>
<tr>
<td>Sep. 25</td>
<td>T</td>
<td>Test 1</td>
</tr>
<tr>
<td>Sep. 27</td>
<td>R</td>
<td>Chapter 25, Capacitance</td>
</tr>
<tr>
<td>Oct. 2</td>
<td>T</td>
<td>Chapter 25, Capacitance</td>
</tr>
<tr>
<td>Oct. 4</td>
<td>R</td>
<td>Chapter 26, Current and Resistance</td>
</tr>
<tr>
<td>Oct. 9</td>
<td>T</td>
<td>Chapter 26, Current and Resistance</td>
</tr>
<tr>
<td>Oct. 11</td>
<td>R</td>
<td>Chapter 27, Circuits</td>
</tr>
<tr>
<td>Oct. 16</td>
<td>T</td>
<td>Chapter 27, Circuits</td>
</tr>
<tr>
<td>Oct. 18</td>
<td>R</td>
<td>Chapter 28, Magnetic Fields</td>
</tr>
<tr>
<td>Oct. 23</td>
<td>T</td>
<td>Chapter 28, Magnetic Fields</td>
</tr>
<tr>
<td>Oct. 25</td>
<td>R</td>
<td>Test 2</td>
</tr>
<tr>
<td>Oct. 30</td>
<td>T</td>
<td>Chapter 29, Magnetic Fields due to currents</td>
</tr>
<tr>
<td>Nov. 1</td>
<td>R</td>
<td>Chapter 29, Magnetic Fields due to currents</td>
</tr>
<tr>
<td>Nov. 6</td>
<td>T</td>
<td>Chapter 30, Induction and Inductance</td>
</tr>
<tr>
<td>Nov. 8</td>
<td>R</td>
<td>Chapter 30, Induction and Inductance</td>
</tr>
<tr>
<td>Nov. 13</td>
<td>T</td>
<td>Chapter 31, Electromagnetic Oscillations and Alternating Current</td>
</tr>
<tr>
<td>Nov. 15</td>
<td>R</td>
<td>Chapter 31, Electromagnetic Oscillations and Alternating Current</td>
</tr>
<tr>
<td>Nov. 20</td>
<td>T</td>
<td>Test 3</td>
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<tr>
<td>Nov. 27</td>
<td>T</td>
<td>Chapter 32, Maxwell’s Equation.</td>
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<tr>
<td>Nov. 29</td>
<td>R</td>
<td>Chapter 33, Electromagnetic waves</td>
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<tr>
<td>Dec. 4</td>
<td>T</td>
<td>Chapter 34, Images</td>
</tr>
<tr>
<td>Dec. 6</td>
<td>R</td>
<td>Review Chapters 21-34</td>
</tr>
<tr>
<td>Dec. 11</td>
<td>T</td>
<td>Final Exam</td>
</tr>
</tbody>
</table>

**LECTURE TEXTBOOK**

Physics 2426 Presentation Rubric

The **presentation** is based on a subject chosen by the students from their life and experience and explained with physics laws and principles. The subject will be presented in a **PowerPoint** format using research and analysis of printed materials as well as online sources.

<table>
<thead>
<tr>
<th>Presentation Assessment Rubric</th>
<th>Points</th>
</tr>
</thead>
<tbody>
<tr>
<td>Title of the presentation and student’s name</td>
<td>5</td>
</tr>
<tr>
<td>Introduction (history, subject overview)</td>
<td>5</td>
</tr>
<tr>
<td><strong>Content</strong></td>
<td>60</td>
</tr>
<tr>
<td>Key concepts</td>
<td></td>
</tr>
<tr>
<td>Definitions/equations</td>
<td></td>
</tr>
<tr>
<td>Description/applications</td>
<td></td>
</tr>
<tr>
<td>(Clarity, Significance, Accuracy, Thoroughness)</td>
<td></td>
</tr>
<tr>
<td>Conclusion and/or future uses</td>
<td>5</td>
</tr>
<tr>
<td>Bibliography</td>
<td>5</td>
</tr>
<tr>
<td>Answers to questions asked by students and professor</td>
<td>5</td>
</tr>
<tr>
<td>Presentation structure</td>
<td>10</td>
</tr>
<tr>
<td>Slide organization, clarity</td>
<td></td>
</tr>
<tr>
<td>Inserted citations (source of information should be explicit)</td>
<td></td>
</tr>
<tr>
<td>Explanations of imbedded figures/videos</td>
<td></td>
</tr>
<tr>
<td>Spelling/punctuation and capitalization</td>
<td></td>
</tr>
<tr>
<td>Time management</td>
<td></td>
</tr>
<tr>
<td>Communication style (speaking freely vs. reading cards or slides)</td>
<td>5</td>
</tr>
</tbody>
</table>
Appendix C

How to Prepare a Scientific Laboratory Report

A laboratory report should show the reader what project you worked on, the data you have collected and your conclusion, namely your interpretation of the facts you gathered. This should be clear and concise, with the data in a table or in a way that it is easily tested.

The laboratory report should contain:

1. **Title.** (5 points) “Define the problem”. The title shows what problem or process you studied.

2. **Abstract.** (5 points extra-not required) This is a condensed version of your report. It states the subject of your experiment, how you collected the data and what you concluded from it.

3. **Hypothesis.** (25 points) “An educated guess”. Identify what your variables are and what you expect the experiment to show. This is an educated guess; give any historical or theoretical background on the problem. The hypothesis does not have to be always correct, it can be disproved by your findings, but it has to be testable, which means you can only change one variable at a time.

4. **Procedure.** (10 points) “The recipe to follow”. This is the part that describes what you did and how you did it, what equipment you used. Write down also the mathematical formulas or equations used.

5. **Results of measurements.** (30 points) “Gathering the data”. Present your observation and the data gathered in a clear and concise way. Draw figures, diagrams or attach a table with data. Raw data is not understandable, so figure out a data table that shows your results at one glance clearly, so you can draw the conclusion.

6. **Conclusion.** (30 points) Refer back to your hypothesis and show if it was correct or you found something different. Explain what your data shows and why, namely what your interpretation of your findings is. Discuss where and what could influence the accuracy of your data and give the percent error or mean deviation.

Do not forget: a scientific laboratory report keeps to facts and should be clear and concise. Keep it neat and easily readable.