A. **Academic Division:** Health Sciences  
B. **Discipline:** Physical Science  
C. **Course Number and Title:** PSCI1050 Climate Studies: Introduction to Climatology  
D. **Course Coordinator:** Robert Slabodnick, R.R.T, N.P.S., R.C.T  
   **Assistant Dean:** Kelly Gray, MS, RN, CNE  

**Instructor Information:**  
- **Name:** Click here to enter text.  
- **Office Location:** Click here to enter text.  
- **Office Hours:** Click here to enter text.  
- **Phone Number:** Click here to enter text.  
- **E-Mail Address** Click here to enter text.  

E. **Credit Hours:** 3  
   - Lecture: 2 hours  
   - Laboratory: 2 hours  

F. **Prerequisites:** None  
G. **Syllabus Effective Date:** Fall, 2017  
H. **Textbook(s) Title:**  
   
   *Climate Studies: Introduction to Climatology, Joseph M. Moran*  
   - Publisher: American Meteorology Society, Boston, MA  
   - Copyright Year: 2010  
   - Edition: 1st  

AND  

*Climate Studies Laboratory Investigations Manual*  
- Publisher: American Meteorology Society, Boston, MA  
- Copyright Year: 2012  
- Edition: 3rd  

OR  

*Packaged Climate Studies Textbook and Laboratory Investigations Manual*  
- Publisher: American Meteorology Society, Boston, MA Copyright Year: 2012-2013  
- Edition: 1st/3rd  
- ISBN: 978-1-935704-98-0
I. Workbook(s) and/or Lab Manual: None

J. Course Description: An introductory science course designed to familiarize students with the basic facts, theories, and methods relating to the study of climatology. This course will focus on the principles of the natural world and the causes of weather. Students will apply these principles by analyzing and interpreting the effects of the atmosphere on our natural and human ecosystems using real-time data from the National Weather Service. This course will also analyze the effects of various human activities upon weather and the global system.

K. College-Wide Learning Outcomes:

<table>
<thead>
<tr>
<th>College-Wide Learning Outcome</th>
<th>Assessments - How it is met &amp; When it is met</th>
</tr>
</thead>
<tbody>
<tr>
<td>Communication – Written</td>
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<tr>
<td>Communication – Speech</td>
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<tr>
<td>Intercultural Knowledge and Competence</td>
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<td>Critical Thinking</td>
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<td>Information Literacy</td>
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<td>Quantitative Literacy</td>
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</table>

L. Course Outcomes and Assessment Methods:

Upon successful completion of this course, the student shall:

<table>
<thead>
<tr>
<th>Outcomes</th>
<th>Assessments – How it is met &amp; When it is met</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Describe the structure, composition, and global circulation of the atmosphere.</td>
<td>Completion of papers, quiz, exam and laboratory notebooks in Weeks 6, 7 and 8</td>
</tr>
<tr>
<td>2. Identify various historic global climatological patterns.</td>
<td>Completion of papers, quiz, exam, and laboratory notebooks in Weeks 9, 10, 11 and 13</td>
</tr>
<tr>
<td>3. Use knowledge of historical climate patterns and ice core sampling to forecast climatological trends.</td>
<td>Completion of papers, quiz, exam, and laboratory notebooks in Weeks 9 and 10</td>
</tr>
<tr>
<td>4. Identify possible analogs to modern climate change.</td>
<td>Completion of papers, exam, and laboratory notebooks in Weeks 1, 2 and 3</td>
</tr>
<tr>
<td>5. Explore the influence and impact of deforestation, water vapor flux, heat storage at Earth’s surface, solar cycles, and anthropogenic emissions on humans and the environment.</td>
<td>Completion of papers, quiz, exam, and laboratory notebooks in Weeks 4, 5, 11, 12 and 14</td>
</tr>
<tr>
<td>6. Interpret climate and climate variability from the instrumental record.</td>
<td>Completion of papers, quiz, exam, and laboratory notebooks in Week 10</td>
</tr>
<tr>
<td>7. Identify causes and describe the factors that affect climate change.</td>
<td>Completion of papers, quiz, exam, and laboratory notebooks in Weeks 3, 5, 6 and 7</td>
</tr>
<tr>
<td>8. Manipulate laboratory materials to investigate climatological phenomenon.</td>
<td>Completion of papers, quiz, exam, and laboratory notebooks in Weeks 8, 10 and 11</td>
</tr>
<tr>
<td>9. Describe potential impact of climate change on human existence.</td>
<td>Completion of papers, quiz, exam, and laboratory notebooks in Weeks 14, 15, and 16</td>
</tr>
</tbody>
</table>

M. Topical Timeline (Subject to Change):

In case of events beyond the control of faculty that interfere with class times and teaching, adjustments may be made to date of coverage, order of coverage, and date of exams and assignments to ensure full coverage of course content.

WEEKLY COURSE OUTLINE (Subject to Revision):
Week 1: Chapter 1 --- climate science for today’s world 1
Week 2: Chapter 2 --- monitoring earth’s climate system 33
Week 3: Chapter 3 --- planetary energy budget in earth’s climate system 67
Week 4: Chapter 4 --- thermal response of the climate system 101
Week 5: Chapter 5 --- water in earth’s climate system 133
Week 6: Chapter 6 --- global atmospheric circulation 169
Week 7: Chapter 7 --- atmospheric circulation and regional climates 205
Week 8: Chapter 8 --- climate and air/sea interactions 245
Week 9: Chapter 9 --- the climate record: paleoclimates 277
Week 10: Chapter 10 --- instrument-based climate record & climatology of severe weather 309
Week 11: Chapter 11 --- natural causes of climate change 345
Week 12: Chapter 12 --- anthropogenic climate change and the future 371
Week 13: Chapter 13 --- climate classification 399
Week 14: Chapter 14 --- responding to climate change 423
Week 15: Chapter 15 --- climate change and public policy 453
Week 16: Final Exam

N. Course Assignments:

1. Complete Laboratory Investigations
2. Short Essays
3. Quizzes
4. Exams
5. Short Answer Discussion Questions
6. Discussion Board Activities

O. Recommended Grading Scale:

<table>
<thead>
<tr>
<th>NUMERIC</th>
<th>GRADE</th>
<th>POINTS</th>
<th>DEFINITION</th>
</tr>
</thead>
<tbody>
<tr>
<td>93–100</td>
<td>A</td>
<td>4.00</td>
<td>Superior</td>
</tr>
<tr>
<td>90–92</td>
<td>A-</td>
<td>3.67</td>
<td>Superior</td>
</tr>
<tr>
<td>87–89</td>
<td>B+</td>
<td>3.33</td>
<td>Above Average</td>
</tr>
<tr>
<td>83–86</td>
<td>B</td>
<td>3.00</td>
<td>Above Average</td>
</tr>
<tr>
<td>80–82</td>
<td>B-</td>
<td>2.67</td>
<td>Above Average</td>
</tr>
<tr>
<td>77–79</td>
<td>C+</td>
<td>2.33</td>
<td>Average</td>
</tr>
<tr>
<td>73–76</td>
<td>C</td>
<td>2.00</td>
<td>Average</td>
</tr>
<tr>
<td>70–72</td>
<td>C-</td>
<td>1.67</td>
<td>Below Average</td>
</tr>
<tr>
<td>67–69</td>
<td>D+</td>
<td>1.33</td>
<td>Below Average</td>
</tr>
<tr>
<td>63–66</td>
<td>D</td>
<td>1.00</td>
<td>Below Average</td>
</tr>
<tr>
<td>60–62</td>
<td>D-</td>
<td>0.67</td>
<td>Poor</td>
</tr>
<tr>
<td>00–59</td>
<td>F</td>
<td>0.00</td>
<td>Failure</td>
</tr>
</tbody>
</table>

P. Grading and Testing Guidelines:

Click here to enter text.

Q. Examination Policy:

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R. Class Attendance and Homework Make-Up Policy:

Click here to enter text.
S. **Classroom Expectations:**

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T. **College Procedures/Policies:**

**Attendance Requirements:** All students are required to attend all scheduled classes and examinations. Each faculty member has the right to establish regulations regarding attendance that he/she considers necessary for successful study.

Students who do not attend classes may be administratively withdrawn from those classes. However, failure to attend classes does not constitute withdrawal, and students are expected to process a formal withdrawal through the Student Records Office in Kee Hall.

**Student engagement requirements:**

Student engagement is based on the “active pursuit” of learning which can be measured by class attendance, class participation (in class or online), taking required quizzes/examinations, and submission of work assignments or papers. Student engagement consists of a student attending at least 60% of the class sessions (there should be attendance throughout the term) and/or completing 75% of the assignments listed on the syllabus at the midpoint in the term. Exceptions can be made when there is on-going communication between the student and faculty member. The communication must be documented and the faculty member and student must be in agreement regarding the exception. Students not meeting the expectation will be administratively withdrawn from class. If a student believes he/she was administratively withdrawn in error, he/she may file an appeal. Being administratively withdrawn may have program and financial aid implications.

**Academic Misconduct** is any activity that tends to compromise the academic integrity of the college, or subvert the educational process. Examples of academic misconduct include, but are not limited to:

1. **Violation of course or program rules** as contained in the course syllabus or other information provided to the student; violation of program requirements as established by departments and made available to students.

2. **Plagiarism** including, but not limited to, submitting, without appropriate acknowledgment, any written, visual or oral material that has been copied in whole or in part from the work of others (whether such source is published or not) even if the material is completely paraphrased in one’s own words. This includes another individual’s academic composition, compilation, or other product, or a commercially prepared paper. Plagiarism also includes submitting work in which portions were substantially produced by someone acting as a tutor or editor.

   Such practices constitute plagiarism regardless of motive. Those who deny deceitful intent, claim not to have known that the act constituted plagiarism, or maintain that what they did was inadvertent are nevertheless subject to penalties when plagiarism has been confirmed.

3. **Cheating** and dishonest practices in connection with examinations, papers and projects, including but not limited to using unauthorized notes, study aids or information on an examination; taking an exam or doing work for another student; providing one’s own work for another student to copy and submit as his/her own; or allowing another student to do one’s work and then submitting the work as one’s own. Also included would be altering a graded work after it has been returned, then submitting the work for re-grading; or submitting identical or similar papers for credit in more than one course without prior permission from the course instructors.

4. **Fabrication** including but not limited to falsifying or inventing any information, data or citation; presenting data that were not gathered in accordance with defined appropriate guidelines, and failing to include an accurate account of the method by which data were collected.
5. **Obtaining an Unfair Advantage** including, but not limited to stealing, reproducing, circulating, or otherwise gaining access to examination materials prior to the time authorized by the instructor; unauthorized collaborating on an academic assignment; taking, hiding or altering resource material; or undertaking any activity with the purpose of creating or obtaining an unfair advantage over another student’s academic work.

6. **Aiding and Abetting Academic Dishonesty** including, but not limited to providing material, information or other assistance to another person with the knowledge that such aid could be used in any of the violations stated above, or providing false information in connection with any inquiry regarding academic integrity.

7. **Alteration of Grades or Marks** including but not limited to, action by the student in an effort to change the earned credit or grade.

In addition, cases of academic dishonesty may involve photocopied materials. Materials used may fall under the Copyright Act. Violations of said Act may subject the user and/or the College to sanctions.

**Statement on Disabilities:** Any student who requires reasonable accommodations related to a disability should inform the course instructor and the Coordinator of Specialized Services (Room 138 in Kee Hall; phone 419-755-4727).

Students who encounter difficulty in any of their courses are encouraged to visit the Tutoring Resource Center (Room 119 in Fallerius Technical Education Center) for tutoring assistance, and the Student Success Center (Room 136 in Kee Hall) for academic assistance, advising services, referrals for personal counseling and Learning Disability (LD) Testing.

**Statement on Withdrawals:** As a student, you are expected to attend class. If you are unable or choose not to attend class, or if for whatever reason you are unable to keep up with the requirements of a course, you need to officially drop the class at the Student Records Office. Refund dates and withdrawal dates will vary slightly from term to term. Contact the Student Records Office for applicable dates. Additionally these dates are posted on the academic calendar available on the college’s website, [www.ncstatecollege.edu](http://www.ncstatecollege.edu), under the Academics heading on the home page and are available at the Student Records Office in Kee Hall. Students should go to the Student Records Office (Room 142 in Kee Hall) to process their withdrawal from any class.

If you choose to walk away from your class without officially withdrawing from it, the faculty member teaching the class must grade your classroom performance on the material available to him or her. This normally results in an “F” grade. An “F” grade can lower your grade point average considerably depending on the total credits accumulated.