**Syllabus** **GEPL 4540 Weather and Climate**

**Class: M W 11:00 am-12:15 pm      Office hours:** MW 2:30 to 4:00 pm

## Dr. Kevin Czajkowski                          Office: 3034 Snyder Memorial

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**Classroom: 2170 Snyder Memorial**

**Weather and Climate, GEPL 4540** helps students understand the weather and climateand the difference between the two. Our goal this semester is to learn how to read weather maps, understand the basics of the weather including fronts, highs, lows, upper atmosphere, jet stream, etc. We will be taking observations of the environment using the GLOBE program (<http://www.globe.gov>). About 10 university groups around the world (most in the US) will be doing a similar course this fall. GLOBE is an international program with participants from at least 116 countries.

**Assignments:**

**Weather Discussions:** Students will sign up to give group weather discussions during class. Students will use a set of maps to develop and then present their weather discussions. Dr. C will demonstrate what the weather discussion should look like the first few weeks of class.

**Climate Information Modules:** We will use an inquiry approach to study climate and climate change throughout the semester. I will post the assignments with instructions as the course progresses so look in the course each week to see if I have posted an assignment. You will be writing up your prior knowledge about climate change and developing questions from what you know. Then, you will research those questions using journal articles and write up the answers.

**GLOBE Protocol Presentations and Data Collection:** As mentioned above, we will use the GLOBE website to learn how to take weather and climate observations outside. Students will work in groups and choose a protocol to present to the rest of the class. Once presented, students will sign up for times and dates to take those observations.

**Outreach Assignment:** Weather and Climate are both very important current events. Weather events affect people every day while Climate Change is a hot topic in the news and in politics. One assignment of this class, I would like you to do one outreach activity. I have several opportunities for you to participate in outreach.

1. Take and enter data on the GLOBE website. The data will be used and can be viewed by students all over the world.
2. Help a school take GLOBE observations – Dr. C works with many teachers and K-12 students in Northwest Ohio and Southeast Michigan. We have a chance to help students take those observations.
3. Enter the National Forecasting Contest. Students from the University of Toledo have entered the contest for the last 2 years. Forecasts are entered 4 days a week and include maximum and minimum temperature, precipitation and maximum wind speed.

**Grading**:

**Exams (*20% of total grade*)**: Midterm and Final

**Assignments (*60% of total grade*)** : Class assignments, presentations

**Final Project (*20% of total grade*) – based on GLOBE observations**

Final Grades for the course are based on the following scale:

93-100% = A 77-79% = C+

90-92% = A- 73-76% = C

87-89% = B+ 70-72% = C-

83-86% = B 60-69% = D

80-82% = B- 59 and below = F

**Resources:** A collection of links to websites that are pertinent to the concepts and topics of Weather & Climate will be shared on Blackboard.

**Required Text and Investigations Manual:** There is no required text for this course.

**University Policies**

The University is an equal opportunity educational institution. Please read [The University’s Policy Statement on Nondiscrimination on the Basis of Disability Americans with Disability Act Compliance](http://www.utoledo.edu/policies/administration/diversity/pdfs/3364_50_03_Nondiscrimination_o.pdf)

**Academic Accommodations**The University of Toledo is committed to providing equal access to education for all students. If you have a documented disability or you believe you have a disability and would like information regarding academic accommodations/adjustments in this course please contact the [Student Disability Services Office](http://www.utoledo.edu/offices/student-disability-services/index.html).

**Expectations of Student Performance:**

**Participation Overview**

Throughout this course, students will work individually or in groups on projects. Each student will be expected to contribute to classroom discussions and to developing their teams’ project.

**Plagiarism**

Many students do not realize that copying and pasting things directly from the Internet is plagiarism. But, it is. I cannot accept work that is plagiarized. It is very easy for students to plagiarize today due to the Internet. But, you just cannot copy someone else’s work. To not plagiarize, you need to paraphrase what you learn and read on Internet sites. If you find something interesting on a website that you would like to include in your work, please do not use the copy and paste functions for any of it. If you do use something word for word from a source, you must put it in quotation marks and cite your reference.

Watch this video on plagiarism that I made:

<http://www.youtube.com/watch?v=0yhOkgriDOo>

## Academic Support Services

The Learning Enhancement Center, the Counseling Center, Disability Services Office, etc. can help students in their academic success.

**Safety And Health Services For UT Students**

If you have an emergency, need to report a crime or health issue, please go to this link for phone numbers you can call*.* [*http://www.utoledo.edu/offices/provost/utc/docs/CampusHealthSafetyContacts.pdf*](http://www.utoledo.edu/offices/provost/utc/docs/CampusHealthSafetyContacts.pdf)

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| **Topic** | Week | Climate Assignment | Due Date |
| **Introduction to course and forecasting** |  |  |  |
| **Surface Air Pressure Patterns & Air Pressure and Wind, highs and lows** | **Aug. 22** |  |  |
| **Surface Weather Maps & The Atmosphere in the Vertical, Stuve diagrams** | **Sept 5** | **Prior Knowledge of climate change** | **Sept. 7** |
| **Weather Satellite Imagery & Sunlight Throughout the Year** | **Sept 12** |  |  |
| **Temperature and Air Mass Advection, fronts** | **Sept 19** |  |  |
| **Air Pressure Change & Atmospheric Pressure in the Vertical** | **Sept 26** |  |  |
| **Clouds, Temperature and Air Pressure & Rising and Sinking Air** | **Oct. 5** | **Climate Change Invest 1** | **Oct. 5** |
| **Midterm – take the midterm online during class** | **Oct. 17** |  |  |
| **Precipitation Patterns & Doppler Radar, monsoon** | **Oct. 24** |  |  |
| **Surface Weather Maps and Forces & Upper Air Weather Maps, 850, 500, 300 mb maps** | **Oct. 31** |  |  |
| **Westerlies and jet Stream & El Niño** | **Nov. 7** | **Climate Change Investigation 2** | **Nov. 7** |
| **Extra-tropical Cyclone & Extra-tropical Cyclone Track Weather** | **Nov. 14** |  |  |
| **Thunderstorms & Tornadoes** | **Nov. 21** | **Koppen Classification** | **Nov. 30** |
| **Hurricanes & Hurricane Wind Speeds and Pressure Changes** | **Dec. 5** | **Reflection on Climate Change** | **Dec. 7** |
| **Final - take the final online during class** | **Dec. 16** | 10:15 am to 12:15 pm |  |