

COURSE INFORMATION

CSC672: Predictive Analytics Capstone
Spring 2017
Monday 5:45PM - 9:00PM
Loop Campus, LEWIS 01515
Course Management System: <http://d2l.depaul.edu>

INSTRUCTOR INFORMATION

Instructor: Daniela Stan Raicu
Office: CDM Center, Room 718
Office Hours: Monday 4:00pm-5:00pm, 9:00pm-9:30pm
Wednesday 4:00pm-5:00pm, 9:00pm-9:30pm
Thursday, 10:00am-11:30am
Other times by appointment
Phone: (312) 362-5512
Fax: (312) 362-6116
Email: draicu@cti.depaul.edu
Home page: <http://facweb.cs.depaul.edu/~dstan>
Skype: daniela.stan.raicu

COURSE DESCRIPTION

The capstone course provides an opportunity for students to integrate and apply the analytics skills and knowledge learned in the previous Predictive Analytics courses to real world data. Course participation includes paper discussions, project progress presentations and reports, and contributions to general course discussions in class as well as on the D2L discussion forums.

The **course project** is comprehensive work that draws upon concepts and methods learned in the foundation courses. Students work in teams and choose their projects from a list of projects provided by the instructor. Students share project milestones, literature reviews, and final project presentations and reports with the rest of the class. At the end of the course, students submit a project report written in the format of a scientific paper and present results to the class.

GOALS

A general goal is to practice previously acquired Predictive Analytics concepts and methods while also learning new ideas and practices in Predictive Analytics. More specific goals include the following:

- Draw upon previous Predictive Analytics methods to complete a comprehensive project
- Read about new Predictive Analytics methods, apply, evaluate, and compare them
- Discuss and present findings

- Write scientific papers
- Get familiar with the grant writing process

CLASS FORMAT

First two lectures will consist of projects' descriptions presented by the instructor. The next two lectures will be preliminary data analysis and papers' reviews presentations by each team. Class meetings between week 5 and week 9 will be dedicated to teams' project updates on methodology and results. In addition to the meetings with the instructor, each team is expected to hold weekly meetings among themselves to discuss and work on their respective tasks. Week 10 will be dedicated to the final project presentations.

I will be available during office hours to have one-on-one sessions with the students on issues related to the project. Meetings with online students can be done via video conferencing (through skype). Students can also make appointments with me if they are not available during the official office hours.

TEAMS

Teams should have four to five members. You can find the list of students (both in-class and online) with email information in the Content page (under week#1) to facilitate the creation of the groups. Each team must elect a team leader who will serve as a contact point for the group. The leader will also make sure that the deadlines are met, and deliverables are submitted through D2L. **Please post group members, leader, and "group name" on the discussion forum by the end of the first week of school.**

If you need help finding a team after the first lecture, email me as soon as possible, and I'll identify a team you can join.

Team Requirements

I will set up a group site on D2L, but teams can also create their own Google group if that's more convenient.

The class forum will be used to evaluate the team and team members' contributions to the project. Each team member should post one entry each week to discuss his/her contributions to the team work.

Entries should discuss:

- Tasks accomplished this week
- Problems or issues encountered in the analytics task
- Possible ideas for solving issues
- Work plan for next week
- Weekly status report/blogs are due on each Sunday by 11:59pm.

GRADING

Since the focus of the course is to work on a data analytics project in a team, your grade will depend on the following factors:

Team grade:

- Paper reviews (10%)
- Project deliverables (65%)
- Progress Reports and Presentations (10%)

Individual grade:

- Attendance and active participation (5%)
- Weekly status reports/blogs (5%)
- Performance evaluation by your peers (5%)

The final grade will be assigned according to the following scale:

Percentage Grade	Letter Grade	Manner of fulfillment
95-100	A	Excellent
90-94	A-	
85-89	B+	
80-84	B	
75-79	B-	Very Good
70-74	C+	
65-69	C	
60-64	C-	
55-59	D+	Satisfactory
50-54	D	
0 – 50	F	

MILESTONES, DELIVERABLES, POLICIES

All submitted work must be original work unless its source is clearly referenced. Failure to clearly attribute quotes from other people's work constitutes plagiarism. Violations will generally receive no credit for a given submission.

Work to be submitted for the course is generally due one week after it was assigned; late submissions are allowed with a 5%, 10%, and 15% penalty for a one day, two days, and three days, respectively. No

late work will be accepted after three days since the assignment was due. ***It is your responsibility to check that your files are uploaded correctly on D2L; you should always keep a copy of your submission.***

Team Deliverables (see tentative schedule for due dates)

- Paper reviews (10%): Six papers will be reviewed by each team as part of the literature review relevant to the project. The papers should have been published in the last five years. Each paper review will be one page long and should describe the goal of the paper, the significance, the data, methodology, results, and limitations. While reviews for six recent papers will be submitted by each team, the teams will only present the most two relevant papers to the rest of the class.
- Progress Reports and Presentations (10%): Each team will provide weekly updates on their progress in the format of either formal PPT presentations or written reports.
- Project deliverables (65%)
 - **Proposal (5%)**:
 - List of team members along with their skype accounts
 - Name of your team leader who will be the contact point for the team and be responsible for the timely submission of deliverables.
 - Project title
 - One paragraph description of the significance of the project
 - **Preliminary Data Analysis Report (10%)**
 - Apply data exploration techniques (data visualization, descriptive statistics, etc...) to learn about the scope and quality of your data
 - Are there missing variables or outliers? Decide what you will do with them.
 - Do you need to do any data transformation?
 - Identify role of variables and start planning what technique to use to accomplish the analytics task
 - **First Draft of the Scientific Paper (10%)**
 - **Final Draft of the Scientific Paper (20%)**
 - **NSF/NIH/DOE Funding Proposal Summary (5%)**
 - **Final Project Presentation (15%)**

Individual Deliverables (see tentative schedule for due dates):

- Weekly status reports/blogs (5%) - see team requirements
- Performance evaluation by your peers (5%) - Each group member must submit an evaluation of the work of each group member. This evaluation must be completed by each group member and must be submitted through D2L.

EMAIL

Email is the primary means of communication between faculty and students enrolled in this course outside of class time. Students should be sure their email listed under "demographic information" at <http://campusconnect.depaul.edu> is correct.

CHANGES TO SYLLABUS

This syllabus is subject to change as necessary to better meet the needs of the students. Significant changes are unlikely, and will be thoroughly addressed in class. Minor changes, especially to the weekly agenda, are possible at any time. If a change occurs, it will be thoroughly addressed during class and posted under Announcements in D2L.

CLASS CANCELLATION

Unless DePaul University closes because of weather, we will have class.

CELL PHONES/ON CALL

If you bring a cell phone to class, it must be off or set to a silent mode. Should you need to answer a call during class, students must leave the room in an undistruptive manner. Out of respect to fellow students and the professor, texting is never allowable in class. If you are required to be on call as part of your job, please advise me at the start of the course.

School policies:

ONLINE COURSE EVALUATIONS

Instructor and course evaluations provide valuable feedback that can improve teaching and learning. The greater the level of participation, the more useful the results. As students, you are in the unique position to view the instructor over time. Your comments about what works and what doesn't can help faculty build on the elements of the course that are strong and improve those that are weak. Isolated comments from students and instructors' peers may also be helpful, but evaluation results based on high response rates may be statistically reliable (believable). As you experience this course and material, think about how your learning is impacted. Your honest opinions about your experience in and commitment to the course and your learning may help improve some components of the course for the next group of students. Positive comments also show the department chairs and college deans the commitment of instructors to the university and teaching evaluation results are one component used in annual performance reviews (including salary raises and promotion/tenure). The evaluation of the instructor and course provides you an opportunity to make your voice heard on an important issue – the quality of teaching at DePaul. Don't miss this opportunity to provide feedback!

ACADEMIC INTEGRITY AND PLAGIARISM

This course will be subject to the academic integrity policy passed by faculty. More information can be found at <http://academicintegrity.depaul.edu/>.

The university and school policy on plagiarism can be summarized as follows: Students in this course should be aware of the strong sanctions that can be imposed against someone guilty of plagiarism. If proven, a charge of plagiarism could result in an automatic F in the course and possible expulsion. The strongest of sanctions will be imposed on anyone who submits as his/her own work any assignment which has been prepared by someone else. If you have any questions or doubts about what plagiarism entails or how to properly acknowledge source materials be sure to consult the instructor.

WITHDRAWAL

Students who withdraw from the course do so by using the Campus Connection system (<http://campusconnect.depaul.edu>). Withdrawals processed via this system are effective the day on which they are made. Simply ceasing to attend, or notifying the instructor, or nonpayment of tuition, does not constitute an official withdrawal from class and will result in academic as well as financial penalty.

Retroactive Withdrawal

This policy exists to assist students for whom extenuating circumstances prevented them from meeting the withdrawal deadline. During their college career students may be allowed one medical/personal administrative withdrawal and one college office administrative withdrawal, each for one or more courses in a single term. Repeated requests will not be considered. Submitting an appeal for retroactive withdrawal does not guarantee approval.

College office appeals for CDM students must be submitted online via MyCDM.

The deadlines for submitting appeals are as follows:

Autumn Quarter: Last day of the last final exam of the subsequent winter quarter

Winter Quarter: Last day of the last final exam of the subsequent spring quarter

Spring Quarter: Last day of the last final exam of the subsequent autumn quarter

Summer Terms: Last day of the last final exam of the subsequent autumn quarter

Excused Absence

In order to petition for an excused absence, students who miss class due to illness or significant personal circumstances should complete the Absence Notification process through the Dean of Students office. The form can be accessed at <http://studentaffairs.depaul.edu/dos/forms.html>. Students must submit supporting documentation alongside the form. The professor reserves the sole right whether to offer an excused absence and/or academic accommodations for an excused absence.

Incomplete

An incomplete grade is a special, temporary grade that may be assigned by an instructor when unforeseeable circumstances prevent a student from completing course requirements by the end of the term and when otherwise the student had a record of satisfactory progress in the course. CDM policy requires the student to initiate the request for incomplete grade before the end of the term in which the course is taken. Prior to submitting the incomplete request, the student must discuss the circumstances with the instructor. Students may initiate the incomplete request process in MyCDM.

- All incomplete requests must be approved by the instructor of the course and a CDM Associate Dean. Only exceptions cases will receive such approval.
- If approved, students are required to complete all remaining course requirement independently in consultation with the instructor by the deadline indicated on the incomplete request form.
- By default, an incomplete grade will automatically change to a grade of F after two quarters have elapsed (excluding summer) unless another grade is recorded by the instructor.
- An incomplete grade does NOT grant the student permission to attend the same course in a future quarter.

Students with Disabilities

Students who feel they may need an accommodation based on the impact of a disability should contact the instructor privately to discuss their specific needs. All discussions will remain confidential.

To ensure that you receive the most appropriate accommodation based on your needs, contact the instructor as early as possible in the quarter (preferably within the first week of class), and make sure that you have contacted the Center for Students with Disabilities (CSD) at:

Student Center, LPC, Suite #370

Phone number: (773)325.1677

Fax: (773)325.3720

TTY: (773)325.7296