CS 584 – Spring 2018

Data Mining – CRN: 13020 – CS 584 - 001

Instructor: Prof. Harry Wechsler **wechsler@gmu.edu**

Email correspondence using GMU accounts with subject CS 584

Course Description – Concepts and techniques in data mining and multidisciplinary applications. Topics include databases; data cleaning and transformation; concept description; association and correlation rules; data classification and predictive modeling; performance analysis and scalability; data mining in advanced database systems, including text, audio, and images; and emerging themes and future challenges. **Advanced Topics**: Support Vector Machines, Deep Learning, and Text Analysis (using LVQ and word2vec)

Time, Day, and Venue: January 22, 2018 – May 16, 2018, R: 4:30 – 7:10 pm – Innovation Hall 208

Office Hours: R: 3:15 – 4:00 pm or by appointment, ENGR 4448.

https://registrar.gmu.edu/calendars/spring-2018/

Spring Break: March 12 – March 18 (no class on March 15)

Last day of classes: May 3

https://registrar.gmu.edu/calendars/spring-2018/final-exam/

Final Exam: Thursday, May 10, 4:30 – 7:15 pm

Required Textbook (including online slides): P. N. Tan, M. Steinbach, and V. Kumar, *Introduction to Data Mining*, Addison Wesley, 2006. http://www-users.cs.umn.edu/~kumar/dmbook/index.php
Topics covered: Data, Classification, Association Analysis, Cluster Analysis, and Anomaly Detection.

Reference Textbook (including online slides): I. H. Witten, E. Frank, and M. A. Hall, *Data Mining: Practical Machine Learning Tools and Techniques* (4th ed.), Morgan Kaufmann, 2016. http://www.cs.waikato.ac.nz/ml/weka/book.html and *The WEKA Workbench* http://www.cs.waikato.ac.nz/ml/weka/Witten_et_al_2016_appendix.pdf

CLOSED BOOK & 2 – 3 TYPED FORMULAE PAGES & SCIENTIFIC CALCULATOR EXAMINATIONS

Grading Composition (100 points)

- 3 (three) Programming Homework Assignments (Classification, Association, and Clustering) and 1 (one) Problem Solving Assignment – 25 %
- Midterm **–** March 22 **–** 15 %
- TEAM TERM PROJECT PRESENTATION – May 3 – 25 %
- FINAL – May 10 – 35 %

Academic Integrity

You are expected to abide by the GMU honor code. Homework assignments and exams are individual efforts. Information on the university honor code can be found at

https://oai.gmu.edu/mason-honor-code/

Additional departmental CS information:

https://cs.gmu.edu/resources/honor-code/

Learning Disability Accommodation

If you have a documented learning disability or other condition which may affect academic performance, make sure this documentation is on file with the Office of Disability Services (ODS) and then discuss it with the professor in his office regarding accommodations.