IME624A: Computer Aided Decision Support Systems

8 January 2018

1 Instructor Information

- Dr. Deepu Philip, Room No. 219, IME Building, IIT Kanpur
- Phone: 0512-259-7460. e-mail: dphilip@iitk.ac.in
- Lecture Timings: 9:00 - 10:30 AM on Mondays and Wednesdays
- Laboratory Timings: As and when needed
- Venue: IME C2 (Lecture), and IME/ME AutoCAD Lab (Laboratory)
- Office hours: 3:00 - 4:00 PM on Mondays and Tuesdays, except during sickness, leave, or holidays. Other times through appointment only. Use e-mail to schedule appointments. Missed office hours will be compensated.

2 Course Information

- Recommended readings:
  - Sauter, V.L., "Decision Support Systems for Business Intelligence", John Wiley Sons., New York.
  - Elmasri, R., and Navathe, S., "Fundamentals of Database Systems", 5^{th} Edn., Addison Wesley, New York.
  - Holzner, S., "PHP: The Complete Reference", McGraw Hill Education, New York.
  - Powell, T., "HTML: The Complete Reference", 5^{th} Edn., McGraw Hill Education, New York.
  - Dyer, R.J.T., " Learning MySQL and MariaDB", O'reilly, New York.
- Registered in the M. Tech, or Ph.D. programs of the IME Department; otherwise special permission from the instructor.
- Basic writing and presentation skills.
- Basic computing skills.

3 General Policies

- Signing up for my course implies that you understand my policies and are willing to abide by them.
- I WILL NOT help students who do not attend lectures and/or lab sessions.
- Arrive after the start of the lecture; you are late. You loose your right to ask questions in that lecture.
- The medium of instruction and discussion will be English only.
- Please switch off your mobile phones before entering the class.
- It is required that all assignments and/or projects are completed using the server space provided for the course. Also, particulars of every assignments and/or projects be e-mailed to me on or before the deadline, with specific details (e.g. folder names required, library files needed, etc.) and IME624A in the subject line. DO NOT attach any source code or other aspects. Only provide the link of getting to the folder. All assignments have to done in separate workspaces (like folders) in the server space provided.
- You are expected to follow good writing and presentation styles. If you don't have one; please follow the one provided. Maintain style consistency throughout the semester.
- You will be asked to evaluate your peers during presentations; please do it ethically.
- You will not be excused from any examinations or projects; unless there is a very valid reason. The student is responsible for making the written request for such absences and obtain necessary permissions. The soul judge of validity is the instructor.
- In engineering and management professions; you are not just expected to work, but succeed. Your work will be evaluated on the final outcomes; NOT your efforts!
- The course contents are vast and hence it is important that sufficient preparations are done before attending the lectures.
- A lot of self learning and preparation is expected and required from the class participants. Hence, please be prepared to work extra.
- Students missing the lab sessions without prior permission will not be helped later in learning the topic that was covered in the lab.
- Lab assignments are to be completed within the stipulated time period and submitted to the TAs for grading.
- Both projects require the submission of proper report and as well as presentation in the class. The presentations are formal and will be done outside the normal course hours.
- Projects are to be executed as group projects, with at most three (3) members per team and at least two (2) members per team. Hence, identify your project partners and submit the group details to class representatives by the end of lecture on 10 January 2018.

4 Grading Policies

- Contribution of various components towards the final score (100%) is:
  - Homework & Lab Assignments: 10%
  - UX/UI Project: 20%
  - Final Project: 20%
  - Mid Semester Exam: 20%
  - Final Exam: 30%
- Final grades may or may not be curved at the discretion of the instructor.

5 Course Ethics

- All group or team assignments will be identified as such. Otherwise collaboration on homework that involves sharing solutions, dividing the problems up, solving as a group, etc. are strictly forbidden. Ethical behavior means that you only accept credit for the work you have done!
- Specific tasks sharing plan is necessary for all teamwork. Evaluations are done against that plan.
- Students are responsible for the honest completion and representation of their work, the appropriate citation of sources and the respect and recognition of others' academic endeavors.
- Any student(s) found guilty of dishonest conduct will be given an F grade for the course and will be reported to the institute level for appropriate disciplinary actions.

6 Examination Policies

- All examinations will be closed book, and closed notes. But you will be permitted to bring an 8.5" X 11" (A4 paper), both sides hand-written (in blue ink or with pencil) as a reference sheet into the examination hall. For final examination, you can bring two of such reference sheets. You are allowed to put whatever you want in that sheet.
- The reference sheet is to be stapled with the answer booklet. If you bring and reference sheet and fail to staple that to the answer booklet will result in 100% reduction of your points. If you are not using a reference sheet, you should get it certified by the instructor on your answer booklet.
- No mobile phones are allowed during the exam, not even as a calculator.
- Bring your own calculator (not mobile phone calculators) and writing materials (pen, pencil, and eraser).
- No cheating is allowed. Anyone caught in the process is guaranteed of an F grade and will be reported to the institute committee for further actions.
- Typically, examinations and quizzes will be objective type with 100% negative marking.

7 Server Policies

You will be using the one of the Linux server in the Smart Systems and Operations Laboratory (IME 103) for developing and testing of all applications related to this course. The following server policies will be enforced.

- Use SSH Secure Shell client to connect with the server.
- Please submit your student login name for obtaining user accounts on the Linux, MySQL, and Samba servers.
- User will get an initial password that has to be changed at the first login.
- There is only limited space (100 MB); intended for working on your HTML, PHP, JAVASCRIPT, C++, Perl, CSS files. Use the space judiciously.
- Be careful during server side programming; not to crash the server.
- Keeping a daily backup of your files is your responsibility.

8 Major Topics

The following are the major topics to be covered during the course, as time permits. Please use this as a guideline for any readings/preparations in advance for the lectures.

- Basics
- Rational decisions and design of a DSS
- Relational database as the back end of a DSS
- Web based user interface using HTML, JavaScript, and JQuery as the front end of a DSS
- Application layer using PHP
- Model base for the intelligence of a DSS - study of different models to create specific applications
- Introduction to simulation
- Simulation and its application to open-ended problems like prescriptive analytics
- Elements of simulation and Monte Carlo simulation model
- Discrete next event stochastic simulation
- Introduction to Arena