CSC 7991
Section 001
Advanced Cyber-Human Interactions
Fall 2017
0410 STAT
Mon 11:30AM - 02:00PM

Faculty contact information:
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Course webpage: http://www.cs.wayne.edu/zzhong/csc7991_fall2017.html

Course Description:
The main goal of the course is to let students to investigate and present the advanced and latest research work and techniques in 3D computer graphics, geometric processing, human-computer interaction, and visualization. The weekly lecture/seminar covers the latest advances in the above topics. All the course topics and materials are selected from most recently premier journal and conference papers in computer graphics, visualization, and computer vision fields, such as ACM TOG, IEEE TVCG, IEEE TPAMI, SIGGRAPH, IEEE Visualization, CVPR, etc. Students are advised to attend the class and follow the lecture notes closely.

Credit Hours:
3 Credit Hours

Prerequisite:
This is a graduate-level course. But undergraduate students would still be able to take this course. Some basic background in linear algebra and programming (CSC 2000 or equivalent) is assumed. Knowledge about computer graphics (CSC 5870) and geometry will be helpful.

Co-requisites:
No

Dr. Zichun Zhong
CSC7991.001
Text(s) Book:
There are no particular textbooks for this course. All the course topics and materials are selected from top journals and conferences in computer graphics and visualization fields, such as ACM TOG, IEEE TVCG, IEEE TPAMI, SIGGRAPH, IEEE Visualization, CVPR, etc.

Computer Programs:
C/C++, Java, OpenGL, Matlab, Python, etc.

Course Contents: (All slides and reference materials are posted on Blackboard at WSU)

• Data Driven Modeling
• Indoor and Outdoor Scene Modeling
• Object Recognition and Detection
• 3D Shape Semantics
• 3D Matching and Alignment
• 3D Graphics and Vision

Laboratory:
No

Course Learning Objectives:
Upon successful completion of this class, the students will be:

1. Able to understand and explain the major concepts and knowledge in computer graphics, human-computer interaction, and computer vision, e.g., data-driven 3D shape matching, recognition, detection, etc.
2. Able to apply concepts and ideas to specific problems in computer graphics, human-computer interaction, and computer vision
3. Able to employ key parts of certain algorithms and techniques in computer graphics, human-computer interaction, and computer vision
4. Able to independently read and study current research publications in computer graphics, human-computer interaction, and computer vision fields
5. Able to be familiar with at least one topic of current interest related to computer graphics, human-computer interaction, and computer vision fields, and able to re-implement related algorithms
6. Prepared to pursue further research in computer graphics, human-computer interaction, and computer vision through presentations

Assessment:

(1) Paper reading and presentation: 80%
(2) Discussion and participation: 20%
Grading Scale:

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<th>Grade</th>
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<tr>
<td>A</td>
<td>90 - 100%</td>
<td>C</td>
<td>70 - 73%</td>
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<tr>
<td>A-</td>
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<td>C+</td>
<td>74 - 76%</td>
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Grading Policies:

1. No late presentation for assignment will be accepted.
2. Course materials and grades will be posted on the blackboard.
3. If there is any special case, please inform the instructor in advance.

Religious Holidays:

Because of the extraordinary variety of religious affiliations of the University student body and staff, the Academic Calendar makes no provisions for religious holidays. However, it is University policy to respect the faith and religious obligations of the individual. Students with classes or examinations that conflict with their religious observances are expected to notify their instructors well in advance so that mutually agreeable alternatives may be worked out.

Student Disabilities Services:

- If you have a documented disability that requires accommodations, you will need to register with Student Disability Services for coordination of your academic accommodations. The Student Disability Services (SDS) office is located in the Adamany Undergraduate Library. The SDS telephone number is 313-577-1851 or 313-202-4216 (Videophone use only). Once your accommodation is in place, someone can meet with you privately to discuss your special needs. Student Disability Services' mission is to assist the university in creating an accessible community where students with disabilities have an equal opportunity to fully participate in their educational experience at Wayne State University.
- Students who are registered with Student Disability Services and who are eligible for alternate testing accommodations such as extended test time and/or a distraction-reduced environment should present the required test permit to the professor at least one week in advance of the exam. Federal law requires that a student registered with SDS is entitled to the reasonable accommodations specified in the student’s accommodation letter, which might include allowing the student to take the final exam on a day different than the rest of the class.

Academic Dishonesty - Plagiarism and Cheating:

Academic misbehavior means any activity that tends to compromise the academic integrity of the institution or subvert the education process. All forms of academic misbehavior are
prohibited at Wayne State University, as outlined in the Student Code of Conduct (http://www.doso.wayne.edu/student-conduct-services.html). Students who commit or assist in committing dishonest acts are subject to downgrading (to a failing grade for the test, paper, or other course-related activity in question, or for the entire course) and/or additional sanctions as described in the Student Code of Conduct.

- **Cheating:** Intentionally using or attempting to use, or intentionally providing or attempting to provide, unauthorized materials, information or assistance in any academic exercise. Examples include: (a) copying from another student’s test paper; (b) allowing another student to copy from a test paper; (c) using unauthorized material such as a "cheat sheet" during an exam.
- **Fabrication:** Intentional and unauthorized falsification of any information or citation. Examples include: (a) citation of information not taken from the source indicated; (b) listing sources in a bibliography not used in a research paper.
- **Plagiarism:** To take and use another’s words or ideas as one’s own. Examples include: (a) failure to use appropriate referencing when using the words or ideas of other persons; (b) altering the language, paraphrasing, omitting, rearranging, or forming new combinations of words in an attempt to make the thoughts of another appear as your own.
- **Other** forms of academic misbehavior include, but are not limited to: (a) unauthorized use of resources, or any attempt to limit another student’s access to educational resources, or any attempt to alter equipment so as to lead to an incorrect answer for subsequent users; (b) enlisting the assistance of a substitute in the taking of examinations; (c) violating course rules as defined in the course syllabus or other written information provided to the student; (d) selling, buying or stealing all or part of an un-administered test or answers to the test; (e) changing or altering a grade on a test or other academic grade records.

**Course Drops and Withdrawals:** In the first two weeks of the (full) term, students can drop this class and receive 100% tuition and course fee cancellation. After the end of the second week there is no tuition or fee cancellation. Students who wish to withdraw from the class can initiate a withdrawal request on Pipeline. You will receive a transcript notation of WP (passing), WF (failing), or WN (no graded work) at the time of withdrawal. No withdrawals can be initiated after the end of the tenth week. Students enrolled in the 10th week and beyond will receive a grade. Because withdrawing from courses may have negative academic and financial consequences, students considering course withdrawal should make sure they fully understand all the consequences before taking this step. More information on this can be found at: http://reg.wayne.edu/pdf-policies/students.pdf

**Student services:**
- The Academic Success Center (1600 Undergraduate Library) assists students with content in select courses and in strengthening study skills. Visit www.success.wayne.edu for schedules and information on study skills workshops, tutoring and supplemental instruction (primarily in 1000 and 2000 level courses).
- The Writing Center is located on the 2nd floor of the Undergraduate Library and provides individual tutoring consultations free of charge. Visit http://clasweb.clas.wayne.edu/writing to obtain information on tutors, appointments, and the type of help they can provide.
**Class recordings:**
Students need prior written permission from the instructor before recording any portion of this class. If permission is granted, the audio and/or video recording is to be used only for the student’s personal instructional use. Such recordings are not intended for a wider public audience, such as postings to the internet or sharing with others. Students registered with Student Disabilities Services (SDS) who wish to record class materials must present their specific accommodation to the instructor, who will subsequently comply with the request unless there is some specific reason why s/he cannot, such as discussion of confidential or protected information.