

# COMS W4172 3D User Interfaces and Augmented Reality Syllabus and Assignments Spring 2021, Tu/Th 1:10–2:25pm

Prof. Steven Feiner

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Schedule is subject to change. (L  $n$  = LaViola et al. Chapter  $n$ ; S  $n$  = Schmalstieg and Höllerer Chapter  $n$ )

#	Date	Topics/chapters covered	Assignment	Due date
1	Tue Jan 12	<a href="#">Introduction</a> (L 1–2; S 1)		
2	Thu Jan 14	<a href="#">Introduction 2</a>		
3	Tue Jan 19	<a href="#">Design principles</a> ( <a href="https://www.nngroup.com/articles/ten-usability-heuristics/">https://www.nngroup.com/articles/ten-usability-heuristics/</a> ; L4)	<a href="#">Assignment 0</a>	Wed Jan 20
	Wed Jan 20		<a href="#">Assignment 0.5</a>	Thu Jan 21
4	Thu Jan 21	<a href="#">Design principles 2</a> ; <a href="#">3D math</a>	<a href="#">Assignment 1</a>	Thu Feb 11
5	Tue Jan 26	<a href="#">3D math 2</a>		
6	Thu Jan 28	<a href="#">3D math 3</a> ; <a href="#">3D software</a>		
7	Tue Feb 2	<a href="#">Case study: 3D windows/desktops</a> (Microsoft Task Gallery paper ( <a href="#">video</a> ); Sun Project Looking Glass ( <a href="#">video</a> or <a href="#">less compressed copy of video to download</a> ); <a href="#">BumpTop paper</a> ( <a href="#">video</a> ); <a href="#">SpaceTop paper</a> ( <a href="#">video</a> ); <a href="#">Personal Cockpit paper</a> ( <a href="#">video</a> ); Facebook Infinite Office ( <a href="#">video</a> ))		
8	Thu Feb 4	<a href="#">Case study: 3D windows/desktops 2</a> (L 3)		
9	Tue Feb 9	<a href="#">Perception, displays, and devices</a> (L 5.1–5.2)		
10	Thu Feb 11	<a href="#">Perception, displays, and devices 2</a> (S 2)	<a href="#">Assignment 2</a>	Thu Feb 25
11	Tue Feb 16	<a href="#">Perception, displays, and devices 3</a>		

12	Thu Feb 18	<a href="#">Perception, displays, and devices 4</a>	<a href="#">Assignment 2.5</a>	Fri Feb 26
13	Tue Feb 23	<a href="#">Selection and manipulation</a> (L 7)		
14	Thu Feb 25	<a href="#">Selection and manipulation 2</a>	<a href="#">Assignment 3</a>	Thu Mar 18
	Tue Mar 2	No class: Spring Break		
	Thu Mar 4	No class: Spring Break		
15	Tue Mar 9	<b>Selection and manipulation 3; Perception, displays, and devices 5</b> (L 5.3–5.8; hear <a href="#">NASA Ames 3D audio spatialization demo</a> [if your browser doesn't have a plug-in for .mp3 files, you may need to right-click and save this file to play it]. <i>Please listen through stereo headphones, not speakers!!!</i> )		
16	Thu Mar 11	<b>Perception, displays, and devices 6; Travel</b> (L 8–8.8, S 11)		
17	Tue Mar 16	<b>Travel 2</b>		
18	Thu Mar 18	<b>Travel 3</b> (L 8.9–8.12)	Final project	Assigned Team name, members, one-sentence project idea (Mon Mar 22 11:59pm); proposal (Tue Mar 30); two progress reports (Tue Apr 6, Tue Apr 13); Individual team meeting (to be scheduled Fri Apr 16); presentation (Our scheduled final exam period)
19	Tue Mar 23	<b>Travel 4; Wayfinding</b>		
20	Thu Mar 25	<b>Development tools: Unity mobile device input; Development tools: Unity networking; Wayfinding 2</b> (L 6, 9)		
21	Tue Mar 30	<b>Final project proposal</b> (Each team will give an overview of their proposed project, addressing the		

issues posed in the assignment.)

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| 22 | Thu Apr 1                      | <b>Wayfinding 3</b>  |
| 23 | Tue Apr 6                      | <b>Final project progress report 1</b><br>(Each team will give a brief overview of their progress.)  |
| 24 | Thu Apr 8                      | <b>Wayfinding 4</b>  |
| 25 | Tue Apr 13                     | <b>Final project progress report 2</b><br>(Each team will give a brief overview of their progress.)  |
| 26 | Thu Apr 15                     | Tracking (Project websites: <a href="#">PTAM</a> , <a href="#">SLAMBench 2.0 SLAM performance evaluation framework</a> ; S 3–4)  |
|    | Fri Apr 16                     | <b>Individual project team meetings</b><br>(30-minute online meetings to be scheduled)   |
|    | ??? Apr<br>??? ??–??<br>online | <b>Final project presentations</b> (Held during our scheduled final exam time.) Each team will give an online presentation, including a demonstration, followed by a question-and-answer session. All final project materials must be uploaded to CourseWorks by ??pm. |