

# Course Timetable

## Timetable S1 - January (Edinburgh Campus)

Time: 9-11am

	Monday	Tuesday	Wednesday	Thursday	Friday
AM	Lecture + Demos + Lab [2hrs]  Room: PGC1  Time: 9-11am				
PM		F20CA Project Group Meeting  Time: 2pm, 2.30pm, 3pm  30 mins supervision (wks 2,3,4,7,9,10,11,12)  Specific project meeting rooms will be allocated in week 1		F21CA Project Group Meeting  Time: 2-3pm  Varying from [30 mins supervision+ 30 mins group meeting] (wks 2,3,4,7,9,10,11,12) to group only discussion (see below).  Specific project meeting rooms will be allocated in week 1	



Note: Room numbers may change please check regularly

	Lecture + Lab	Tutorials	Assignments
WEEK 1	Introduction GA, OL, MPA: <ul style="list-style-type: none"><li>Intro to spoken dialogue systems and conversational agents. Intro to Natural Language Processing. System architectures.</li><li>Intro to Projects. Intro to Teams. Project selection system.</li></ul>	Project Selection <ul style="list-style-type: none"><li>Supervisors will be availble in meeting rooms to give further details on project and project requirements.</li></ul>	
WEEK 2	Lecture AS: Neural Response Generation <ul style="list-style-type: none"><li>State of the art generative language models</li><li>All you need to know about LLMs</li></ul> Lab: Ollama	F21CA 30 min  F20CA 20 min  Project Supervision: Progress  Project Management	Demo presentation description

WEEK 3	<p>Lecture GA: Ethics/Safety and Response Generation NLG</p> <p>Lab: Ethics Approval</p>	<p>F21CA 30 min</p> <p>F20CA 20 min</p> <p>Project Supervision: Project Plan Review</p> <p>Task Allocation</p>	
WEEK 4	<p>Lecture OL: Understanding Natural Language in Context</p> <ul style="list-style-type: none"> <li>Theory and methods for NLU. SLU, and pragmatic issues in language understanding.</li> <li>How can we get machines to understand what words "really" mean.</li> </ul> <p>Lab: Reading assignment class quiz and group discussion</p>	<p>F21CA 30 min</p> <p>F20CA 20 min</p> <p>Project Supervision: Progress</p> <p>Project Management</p>	
WEEK 5	<p>Lecture GA: Evaluation and Data Collection</p> <ul style="list-style-type: none"> <li>evaluation methods</li> <li>crowdsourcing dialogue data</li> </ul> <p>Lab: evaluation plan for each group</p>	<p>Groups meet without supervision manage project</p>	
WEEK 6 Consolodation Week	No Lecture	No Tutorial	
WEEK 7	<p>Student Project presentations + feedback session (ALL)</p> <p>Your presentation should cover:</p> <ul style="list-style-type: none"> <li>What will your system do?</li> <li>Example dialogues; screen shots / mock-ups.</li> <li>What is the main research question / focus of the project? E.g. SLU, DM, NLG or ....?</li> </ul>	<p>F21CA 30 min</p> <p>F20CA 20 min</p> <p>Project Supervision: Progress</p> <p>Project Management</p>	Project presentations

	<ul style="list-style-type: none"><li>• What components will it have? Which tools / subsystems will you use?</li><li>• How will you evaluate it? e.g. User tests? Simulations?</li><li>• What are your roles in the project?</li><li>• Project plan – from week 7-12</li></ul>		
WEEK 8	<p>Lecture OL: Dialogue Management and NLG</p> <ul style="list-style-type: none"><li>• "what to say and how to say it" in conversational systems.</li><li>• Reinforcement Learning methods for optimising DM and NLG decisions</li><li>• DM and NLG in the era of LLMs</li></ul> <p>Lab/practical : RASA CALM: conversational AI with Language models</p>	Groups meet without supervision manage project	
WEEK 9	<p>Lecture MPA: Speech Technology</p> <ul style="list-style-type: none"><li>• Text to Speech (TTS)<ul style="list-style-type: none"><li>• Expressive TTS</li><li>• Voice Cloning</li><li>• Vocal Puppetry</li></ul></li><li>• Automatic Speech Recognition (ASR)<ul style="list-style-type: none"><li>• Principles</li><li>• Tools</li></ul></li></ul> <p>Lab: Using cloud ASR and TTS</p>	<p>F21CA 30 min</p> <p>F20CA 20 min</p> <p>Project Supervision: Progress</p> <p>Project Management</p>	
WEEK 10	<p>Guest Lecture: Hazel Morton - Speech Graphics</p>	<p>F21CA 30 min</p> <p>F20CA 20 min</p>	

	<p>Augmenting conversational AI with animated digital characters</p> <ul style="list-style-type: none"> <li>• Speech graphics' animation technology: our roots in the games industry</li> <li>• Animations and gestures as they apply to conversation</li> <li>• Crafting conversational experiences with digital characters</li> <li>• Applications and cases studies (I will share a few examples from our Rapport clients across different verticals/use cases)</li> <li>• Challenges and Opportunities</li> </ul> <p>Lab: Speech Graphics Intro to Rapport</p>	<p>Project Supervision: Progress</p> <p>Project Management</p>	
WEEK 11	<p>Lecture MPA: Conversational Interaction</p> <p>Turn taking and Interruption</p> <p>Multi-speaker systems</p> <p>Incremental ASR</p> <p>Lab: Script follower demo.</p> <p>Conversational Analysis</p>	<p>F21CA 30 min</p> <p>F20CA 20 min</p> <p>Project Supervision: Progress</p> <p>Project Management</p>	
WEEK 12	<p>Student project demos/ reports + feedback session (ALL)</p> <p>Your demo presentation should be a mixture of slides and video or a live demo – recommended length about 10 mins - used to explain:</p> <ul style="list-style-type: none"> <li>• the overall concept and aims of your system</li> </ul>	<p>F21CA 30 min</p> <p>F20CA 20 min</p> <p>Project Supervision: Report Writing</p> <p>Report Writing</p>	Project Demo

	<ul style="list-style-type: none"><li>• the main problems to be solved in creating your system</li><li>• what your demo is showing – i.e. what your system’s new features are</li><li>• the main software / NLP modules that your team has worked on</li><li>• the evaluation plan (and any results you have)</li><li>• how it could be improved / future work</li><li>• roles of different team members in the system development</li></ul>		
<b>FINAL REPORT/INDIVIDUAL REPORT Friday 4th APRIL</b>			<ul style="list-style-type: none"><li>• Deadline: student project report (minimum 6 pages, maximum 8 pages: appendices and bibliography not counted in page count: ACL conference-paper style, use either the <a href="https://www.overleaf.com/latex/templates/acl-2020-proceedings-template/zsrkcwjtpcd">latex template</a>  (<a href="https://www.overleaf.com/latex/templates/acl-2020-proceedings-template/zsrkcwjtpcd">https://www.overleaf.com/latex/templates/acl-2020-proceedings-template/zsrkcwjtpcd</a>), or <a href="http://acl2020.org/downloads/acl2020-templates.zip">word template</a>  (<a href="http://acl2020.org/downloads/acl2020-templates.zip">http://acl2020.org/downloads/acl2020-templates.zip</a>) . Send completed report by email as pdf to your project supervisor by the report deadline. You must also submit the minutes of your project meetings as supporting documentation. See <a href="https://ebsglobal.instructure.com/courses/28888/pages/assessment">Assessment</a> (<a href="https://ebsglobal.instructure.com/courses/28888/pages/assessment">https://ebsglobal.instructure.com/courses/28888/pages/assessment</a>)</li><li>• Deadline: Individual self-reflection report: Write a report (maximum 1 page) on your experience of the group process answering the following questions:<ol style="list-style-type: none"><li>1. How did you plan and manage your own work within the group?</li><li>2. To what extent did you independently solve problems and take initiative within the group?</li><li>3. How did you take responsibility for your own and other’s work by contributing effectively and conscientiously to the work of your group?</li><li>4. How did you actively maintain good working relationships with group members?</li><li>5. Did you lead the direction of the group project or any aspect of it?</li><li>6. Critically reflect on your roles and responsibilities within the group, and the roles and responsibilities of the other members.</li></ol></li></ul> <p><b>Submit via canvas</b></p>