

**Course Keywords	Program Synthesis, Programming Languages, Formal Methods, Artificial Intelligence, Human-Computer Interaction					
*1. Goals	This course introduces program synthesis, one of the most central research problems in computer science and AI. Students will learn state-of-the-art approaches to the problem including recent AI-powered advancements as well as open problem in the area.					
**2. Reading Materials	Textbooks					
	References	S. Gulwani, O. Polozov and R. Singh. <i>Program Synthesis</i> . 2017.				
	Lecture Method	Theory-driven Discussion-oriented Project-based				
**3. Course Schedule	The first half of the course will lecture major topics of program synthesis grouped by intention (programming by example, intent formalization, etc.), invention (deduction, enumeration, etc.), and adaptation (quantitative synthesis, program repair, etc.) The second half of the course consists of paper discussion and project presentation.					
	Grading Method	Absolute evaluation				
	Grading Type	A~F				
*4. Evaluation	Item Rate	Attendance	Assignment	Presentation	Project	Total
			30%	20%	50%	100%
	Note		Finish three assignments	Present and lead discussion for an assigned paper	Apply program synthesis techniques to a project of your choice	
5. Quota Exceeding Course Registration	Attendance Policy	Students who are absent more than 1/3 of class days will receive “F” or “U” grade. Students whose attendance is acknowledged can be exceptions. (Academic Grading Regulations, Guidance of Attendance and Grading for Early Employed Students)				
	Other	Other matters pertaining to the evaluation method such as regulations on cheating, whether and how alternative tests are made, and whether feedback for assignments or tests is provided				
6. Guideline for Students	Capacity	Up to 30 Students				
7. Support Services for Students with Disabilities	Prerequisite Courses					
	Requirements					
	Office Hours					
* Contents can be modified as	For Lectures	<ul style="list-style-type: none"> ○ Visual Impairment: Make textbooks(digital textbook, braille textbook, enlarged textbook etc.), Allow note takers ○ Physical Disability: Make textbooks(digital textbook), Allow note takers and assistants ○ Hearing Impairment: Allow note takers and translators, Allow lecture recording ○ Health Impairment: Excuse absence due to health problems, Allow note takers ○ Learning Disability: Allow note takers ○ Intellectual Disability / Autism Spectrum Disorder: Allow note takers and mentors 				

needed	For Assignments & Evaluations	<p>○ Visual Impairment / Physical Disability / Hearing Impairment / Health Impairment / Learning Disability: Extend assignment deadlines, Offer alternate assignment submission and response method, Extend testing period, Offer alternate testing method, Offer different testing room</p> <p>○ Intellectual Disability / Autism Spectrum Disorder: Offer individualized assignments and alternative evaluations</p>
	Other	<p>Students who take this course can get appropriate level of support service including the support listed above depending on the students' individual characteristics and needs through consultation with professors and the Support Center for Students with Disabilities. If you have any questions concerning support service for students with disabilities you can contact Professor *** (02-880-****) or Support Center for Students with Disabilities (02-880-8787).</p>

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