Course Information	**ITLS 6530—Instructional Design and Development Studio**[1] Wednesday, 9:00 a.m.- 11:30 a.m. EDUC 282
Instructor Information	Instructor: David F. Feldon, Ph.D. Office: EBLS 243 Phone: (435) 797-0556 Office Hrs: By appointment E-mail: david.feldon@usu.edu
Purpose	The purpose of this course is to comprehensively examine the cognitive information processing system and its implications for instructional design. The course will review of literature from cognitive and educational psychology and related works in instructional design and development. Specifically, the topic areas of working memory, cognitive load theory, and deepening complexity models of instructional design will be examined. Students' final work products for the course will be instructional design documents with academic footnoting.
Objectives	Students in this course will learn to: 1. Identify and accurately characterize the functions of the major components of the cognitive information processing system. 2. Explain the dynamic nature of working memory, the effects of prior knowledge, and its implications for instruction as described by cognitive load theory. 3. Explain the major premises of and apply whole-task/deepening complexity models of instructional design to individual learning objectives.
Expectations of Students	• Actively engage with the course material and find ways to make it relevant to your professional and academic needs and goals • Challenge statements that are confusing or with which you disagree • Engage in class dialogue with thoughtfulness, openness, and respect • Attend class having read and taken notes on the readings due • Work to develop your writing and speaking skills throughout the course

[1] Although the course requirements listed in this syllabus will not change, the instructor reserves the right to change assigned readings in order to best accommodate the needs of the students in the course.

Expectations of Instructor

- Available during and outside of class time to address questions and concerns
- Will respond to messages and emails within 48 hours
- Provide clear explanations of salient principles and theories
- Conduct an intellectually challenging and rigorous course

Absences

If you find it absolutely necessary to be absent from class because of illness or an emergency, you are responsible to master *all* information presented during your absence. Do not ask the instructor to repeat important information—identify a classmate who will help you.

It is important to understand that the purpose of the lectures is not to explain the readings. While time will be spent on clarification, most of the material presented in class will serve as an extension of relevant ideas and issues. As such, attendance and participation in class will be necessary aspects of the learning process, in addition to the readings. Consequently, absences should be avoided to prevent you from falling behind and missing information for which you will be responsible.

Administrative Issues

All administrative issues will be handled according to established USU and CEHS policies.

Please note that I only give incomplete grades in rare and exceptional cases.

Special Needs

Any student requiring accommodations based on a **disability** is required to register with the Office of Student Disability Services each semester. A letter of verification for approved recommendations can be obtained through OSD.

Required Texts

Mayer, R. E. (2010). *Applying the science of learning.* Boston, MA: Pearson.

van Merriënboer, J. J. G., & Kirschner, P. A. (2012). *Ten steps to complex learning: A systematic approach to four-component instructional design* (2nd ed.). New York, NY: Routledge.

Additional readings will be posted in Canvas as PDF files.

Grading

Assignments more than one week late will not be accepted unless a student has experienced an extreme emergency (contact the instructor). A paper received from one day to seven days late will receive a one full letter grade reduction.

Presentations cannot be made up. Only in the most extreme individual circumstances will the instructor modify this policy.

Any case involving academic dishonesty will be referred to the University for further action.

Course Requirements		**Credit**
	Discussion Facilitation (2)	50%
	Final Paper	50%

Assignments

Discussion Facilitation:
On dates selected during the first class meeting, you will choose two classes to **take the lead on discussion facilitation** for all assigned readings. The purpose of the assignment is not to provide a summary. Instead, you must understand the collective readings at a deep level to identify the central issues and controversies and formulate driving questions to serve as the focus of the discussion for that day. The instructor will provide support as necessary both prior to and during the facilitation to ensure a successful interaction for the class as a whole. Credit is given on the basis of evident preparation and comprehension of core issues in the readings discussed, not on the success of the class interaction itself. Credit/No Credit.

Instructional Design Document:
An instructional design document that comprehensively portrays a theory-based instructional plan for teaching a complex task will be the final paper for the course. In addition to the standard features of such a document (characterization of target learners, articulation of goals and objectives, content analysis, detailed descriptions of lessons, and assessment mechanisms), this paper will need to be annotated with a rationale/justification for each design decision that includes relevant citations from the literature. Format for annotation can be either footnotes or a two-column format. Graded.

Date	Topic	Discussion Facilitators	Readings Due
Aug 27	Introductions; Scheduling; Overview of CIP Model		
Sep 3	Schema Theory; Models of Skill Acquisition; Knowledge Types		Mayer (2011; pp. 1-50); VanLehn (1996)
Sep 10	Working Memory; Cognitive Load Theory		Feldon (2007a); Sweller et al. (1998)
Sep 17	Instruction based on human cognitive architecture		Mayer (2011; pp. 51-90); van Merriënboer & Kirschner (2013; chs. 1-2)
Sep 24	NO CLASS		
Oct 1	Guided Instruction; Expertise Reversal Effect;		Kalyuga (2007); Kirschner, Sweller, & Clark (2006); van Merriënboer & Kirschner (2013; ch. 3)
Oct 8	Assessment		Mayer (2011; pp. 91-128); van Merriënboer & Kirschner (2013; chs. 4-6)
Oct 15	Instructional Content		Clark, Feldon, van Merriënboer, Yates, & Early (2008); van Merriënboer & Kirschner (2013; chs. 7-10)
Oct 22	Instructional Design Decisions and Strategies		Merrill (2002a,b); van Merriënboer & Kirschner (2013; chs. 11-14)
Oct 29	Worked Examples; Fading		Atkinson et al. (2000); Renkl et al. (2004)
Nov 5	Workshop		Feldon (2007b)
Nov 12	Workshop		TBD
Nov 19	Workshop		TBD
Nov 26	NO CLASS—THANKSGIVING		
Dec 3	Review and Synthesis	Project Roundtable	
Dec 10			Final Paper due via email by midnight

Required References

Readings

Readings will be posted to Canvas and available in PDF format for download.

Atkinson, R. K., Derry, S. J., Renkl, A., & Wortham, D. (2000). Learning from examples: Instructional principles from the worked examples research. *Review of Educational Research, 70*(2), 181-214.

Clark, R. E., Feldon, D., van Merriënboer, J. J. G., Yates, K., and Early, S. (2008). Cognitive task analysis. In J. M. Spector, M. D. Merrill, J. J. G. van Merriënboer, & M. P. Driscoll (Eds.). *Handbook of research on educational communications and technology* (3rd ed.) (pp. 577-593). New York: Routledge.

Feldon, D. F. (2007a). Implications of research on expertise for curriculum and pedagogy. *Educational Psychology Review, 19*(2), 91-110.

Feldon, D. F. (2007b). Cognitive load in the classroom: The double-edged sword of automaticity. *Educational Psychologist, 42*(3), 123-137.

Kalyuga, S. (2007). Expertise reversal effect and its implications for learner-tailored instruction. *Educational Psychology Review, 19*(4), 509-539.

Kirschner, P., Sweller, J. & Clark, R. E. (2006). Why minimally guided learning does not work: An analysis of the failure of discovery learning, problem-based learning, experiential learning and inquiry-based learning. *Educational Psychologist, 41*(2), 75-86.

Merrill, M. D. (2002a) A pebble in the pond model for instructional design. *Performance Improvement, 41,* 39-44,

Merrill, M. D. (2002b). First principles of instruction. *Educational Technology Research and Development, 50,* 43-59.

Renkl, A., Atkinson, R. K., & Broβe, C. S. (2004). How fading worked solution steps works—A cognitive load perspective. *Instructional Science, 32,* 59-82.

Sweller, J., van Merriënboer, J. G., & Paas, F. G. (1998). Cognitive architecture and instructional design. *Educational Psychology Review, 10,* 251– 296.

VanLehn, K. (1996). Cognitive skill acquisition. *Annual Review of Psychology, 47,* 513-539.