




5 credits

30.0 h

Q2

Teacher(s)	Kieffer Suzanne ;
Language :	French
Place of the course	Louvain-la-Neuve
Main themes	<ul style="list-style-type: none"> · Visual perception · Representation (encoding of values, of relations) · Presentation (visualization techniques) and interaction · Design principles (Gestalt, Bertin, color theory) · Dashboards and visual analytics
Aims	<p>Upon completion of this course, the student will be able to:</p> <ul style="list-style-type: none"> · AA1: Describe data visualizations in terms of data type, data representation, presentation and interaction technique, and user task 1 · AA2: Explain the different stages involved in the development of interactive visualizations by illustrating each step through its typical results (e.g. deliverables) · AA3: Apply Information Visualization principles and techniques to design and develop an interactive visualization of a large data set · AA4: Evaluate a visualization using criteria and propose improvements <p>-----</p> <p><i>The contribution of this Teaching Unit to the development and command of the skills and learning outcomes of the programme(s) can be accessed at the end of this sheet, in the section entitled "Programmes/courses offering this Teaching Unit".</i></p>
Evaluation methods	<p>1st session: formative assessment</p> <ul style="list-style-type: none"> • Knowledge tests (30%) • Individual assignment (30%) • Collective assignment (40%) <p>Failure in one of the assessment categories leads to an overall failure for the course.</p> <p>2nd session: individual assignment to be delivered on the first day of the session</p>
Teaching methods	<ul style="list-style-type: none"> • Lectures • Flipped classroom • Teaching by project
Content	<ul style="list-style-type: none"> • Visual perception • Data: encoding, presentation and interaction • Design principles • Trends: dashboards and visual analytics
Inline resources	<ul style="list-style-type: none"> • Moodle: lecture notes, bibliography, workshops, assignments, models and evaluation criteria grids • Web: videos, blogs, websites, online software
Bibliography	<ul style="list-style-type: none"> • Moodle : notes de cours, bibliographie, ateliers, devoirs, modèles et grilles critériées d'évaluation • Web : vidéos, blogs, sites web, logiciels en ligne <ul style="list-style-type: none"> • Bateman, S. et al. Useful junk?: the effects of visual embellishment on comprehension and memorability of charts. Proc. CHI 2010. • Bertin, J. Semiology of graphics: diagrams, network, maps. 1983. • Heer, J., Bostock, M., and Ogievetsky, V. A survey of powerful visualization techniques, from the obvious to the obscure. Communications of the ACM, June 2010, Vol. 53, No. 6, pp. 59-67, 2010. • Segel, E. and Heer, J. Narrative Visualization: Telling Stories with Data. Proc. InfoVis 2010. • Shneiderman, B. The Eyes Have It: A Task by Data Type Taxonomy for Information Visualizations. Proc. Symposium on Visual Languages, pp. 336-343, 1996. • Spence, R. Information visualization: Design for interaction. 2007. • Tufte, E. The visual display of quantitative information, 2nd edition. Graphics Press. 2001. • Ware, C. Information Visualization, 3rd Edition, Perception for Design. Morgan Kaufmann. 2012. • Wertheimer, M. A brief introduction to gestalt, identifying key theories and principles. Psychol Forsch 4 (1923):301-350.

Faculty or entity in charge	COMU
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Programmes containing this learning unit (UE)				
Program title	Acronym	Credits	Prerequisite	Aims
Master [120] in Communication	CORP2M	5		
Master [60] in Information and Communication	COMU2M1	5		
Master [120] in Information and Communication Science and Technology	STIC2M	5		
Master [120] in Information and Communication	COMU2M	5		