Web Science studies the phenomena related to the analysis and design of socio-technical systems. Sociology plays an important role in the design of the web of the future. This course introduces the principles of web science. The design systems used in web science are presented, including information retrieval mechanisms, recommender systems and sentiment analysis systems. Then, the terms Social Computing and Citizen Science are defined, paying special attention to artificial societies and trust and reputation mechanisms. Finally, social decision-making mechanisms based on preference aggregation are revised.