This course analyzes the economics of social networks, such as Facebook, as well as of other networks, such as the Internet, the telecommunications network, cable TV networks, banking networks, and credit card networks. We develop a general theory of platform competition, where the platform may be an operating system such as the iOS, Android, or Windows or a network such as Facebook. We examine how networks are formed from the perspective/incentives of users, the network (platform) operator, and the applications providers that are complementary to the network. We identify key features of networks including: (i) higher value to users from networks of larger size; (ii) very significant inequalities in market share, profits, and (often) prices; (iii) the extent of incentives for interoperability and interconnection between networks; and (iv) importance of key network nodes that are “central” or “influential” in the creation and stability of networks.

We discuss a general theory of two-sided markets, where two sides/parties wish to interact, and their interactions must go through an intermediary/platform/network. Examples:

- Two sides: advertisers and readers. Intermediary: periodical, Yellow Pages, Internet search engine.
- Two sides: Internet message sender and receiver. Intermediary: Internet Service Provider(s).
- Two sides: consumers and merchants. Intermediary: payment network (e.g., Visa, MasterCard, American Express).
- Two sides: gamers and game designers. Intermediary: game-console manufacturer.

We observe that sometimes both sides pay (game-console manufacturers charge both gamers and game designers), sometimes there is a zero price to one side (Google doesn’t charge consumers but charges advertisers) and sometimes one side is subsidized (credit-card companies charge merchants, but often subsidize consumers with cash and bonus points or miles). We explain why charges vary across the types of examples above, and apply it to the current controversial issue the abolition of “network neutrality,” if telephone and cable companies are allowed to impose additional charges to originators of content on the Internet.

We will discuss network platforms of importance including (i) mobile “smart” phones such as iPhone and Android ones; (ii) audio and video distribution networks; (iii) digital books distribution networks; (iv) the PC operating systems market; (v) the payments systems networks (credit cards) platforms; and (vi) bank networks formation and systemic risk. We will also discuss the structure of the Internet, Internet search and advertising markets/platforms.

This course will be of particular interest to students who are planning a career in high technology industries including computing, software, cell phones, Internet search, electronic commerce, and payment systems, among others.