

IV128 Online Communication from a Social Science Perspective

Teachers:

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Mgr. Ondřej Sotolář

Extent and Intensity: 1/1/0, 4 credits

Zoom link: <https://cesnet.zoom.us/j/6820589922>

Course objectives:

The aim of the course is to introduce the basic theories of online communication and online communication research, which will enable students of computer science to become more aware of the specifics of this field. They can use this knowledge when creating their own systems and online communication tools. In practical terms, this knowledge will help students to understand some of the pitfalls of online communication, enabling them to communicate better and more efficiently, like in virtual teams and other work groups. After completing this course, they will be familiar with theories dealing with online communication, privacy on the internet, online addictions, usable security, phishing, online research methods. They will also be able to describe how context, perception, and personality characteristics affect the behavior of internet users in various contexts, such as the security domain.

Credit Requirements:

1. 80% attendance (minimum of 8 lessons out of 10).
2. Presentation of a selected topic – Group assignment. The topics are to be determined by the teacher at the beginning of the course. Students will prepare a 20min presentation (+ time for discussion with other students) on a given topic based on academic literature. For further details on the presentation format, see Presentation Instructions below.
3. Written assignment - Individual assignment, minimum length: 4 standard pages (1 standard page = 1,800 characters, including spaces). Students will write a paper on a selected topic from the entire course, focusing primarily on comparing their own experience to the academic literature (at least 5 academic sources/articles must be used).

Deadline: **15. 6. 2025**

Presentation instructions:

- For each lesson, one topic related to the subject of the lecture is provided - see below.
- Presentation of the selected topic is done by a group of 2-3 students.
- The duration of the presentation is 20 minutes + 10 minutes for discussion. All group members must be actively involved in the presentation.
- The presentation must be submitted to the IS Homework folder no later than 2 days before the presentation date. Failure to do so in time is a reason for not granting credit for the course (except for the first subject, where the presentation can be submitted one day before the presentation date).
- The presentation date cannot be changed or moved, except for extraordinary reasons.
- Find at least 4 high-quality foreign academic (not Czech or Slovak!) resources on the topic, based on which you will prepare a synthesis of the information for your presentation.

- The presentation must fulfill all the requirements listed below. In the case of a substandard presentation, the group will prepare a new topic and present it during the last lesson.

Academic sources are articles from academic peer-reviewed journals or academic book chapters. Use the available electronic resources to search:

<https://ezdroje.muni.cz/prehled> . Suitable publications can be found primarily in the Web of Science database.

Content of the presentation:

1. General introduction of the topic - what needs to be said to keep the listener in the picture, what are the basic definitions related to that topic.
2. What did you notice, what caught your attention, and what surprised you regarding the selected topic?
3. Examples for other students – aim to explain the topic to other students through practical examples, such as where to find it on the internet, what software is used, which sites, which blogs...
4. What do you think of when you think about your chosen topic from the IT point of view - how can the information be used in practice?

Themes of seminars:

- 1) **17. 2. READING LECTURE:** Communication theories and the specifics of online communication. Introduction of basic concepts in the context of online communication: anonymity, disinhibition, self-disclosure.

Reading:

- Walther, J. B. (2011). Theories of computer-mediated communication and interpersonal relations. *The handbook of interpersonal communication*, 4, 443-479.
http://www.commres.net/wiki/_media/42241_14.pdf
- The Online Disinhibition Effect. IN Suler, J. (2004). *The Psychology of Cyberspace*.
<http://www-usr.rider.edu/~suler/psycyber/disinhibit.html>
- The Psychology of Text Relationships IN Suler, J. (2004). *The Psychology of Cyberspace*.
<http://www-usr.rider.edu/~suler/psycyber/psytexrel.html>

- 2) **24. 2.** Introduction and organization of lessons. Introduction of presented topics. Student presentations.

- 3) **3. 3.** Risks of using the Internet: an overview of risks, cyberbullying, online aggression and hateful online content, exposure to sexual materials, meeting strangers on the internet.

Presentation theme: Online risks (cyberbullying, aggression, hate messages) and its identification by AI - machine learning techniques

Reading:

- Smahel, D., Wright, M. F., & Cernikova, M. (2014). Classification of online problematic situations in the context of youths' development. *Communications*, 39(3), 233-260.

- 4) **10. 3.** Online addictions: Origin and definition of online addiction, basic terminology, prevalence, how to identify online addiction, behavioral addictions, results of current research.
Presentation theme: Online addictions and SW design. How to minimize online addictions by SW design?
Reading:
- Vondrackova, P., & Šmahel, D. (2019). Internet addiction in context. In *Advanced Methodologies and Technologies in Artificial Intelligence, Computer Simulation, and Human-Computer Interaction* (pp. 551-562). IGI Global.
- 5) **17. 3.** Internet mediation and software: basic principles of family mediation, role of SW in this mediation, basic types of software, and possibilities for development.
Presentation theme: Parental mediation and SW: What types of SW do we have? How do parents use this SW? What are the factors of usage or non-usage of parental SW?
Reading:
- Read about parental controls and advices for parents, researchers and industry:
<https://pdfs.semanticscholar.org/22c6/86cd0093588106518d43973929264bfdc2ef.pdf>
 - Read about a value sensitive design approach to parental software:
https://dl.acm.org/doi/pdf/10.1145/2771839.2771917?casa_token=n-moirHJxukAAAAA:V7S7aBxY9_ss2Tm1wQXPoDw0q986LzZIfve7vPsCIKEWeTfvdnGUUc1pHlnWihKnSaB4JgiK7UC4pA
- 6) **24. 3.** Phishing. Psychological perspective of the principles used in phishing; prevention.
Presentation theme: Fraud emails: Nigeria letters, scam 419
Reading:
- Phishing threat avoidance behaviour: An empirical investigation:
https://www.sciencedirect.com/science/article/pii/S0747563216301236?casa_token=Sd8HtopphqAAAAA:24qxBuv7JwdHZp-kFmjSrIV5FhXEfFotH8BGxTu84u_Usa_tbrLN3Ypm0YjfNrPBFKSMzqZhmLo
 - Why phishing still works: User strategies for combating phishing attacks:
https://www.sciencedirect.com/science/article/pii/S1071581915000993?casa_token=pXQsD_BCXEIAAAAA:1rsfVPKm8KW2inIf7W8wR-l-OGuBOMAlsp_1S0ZoWKQ8XKJk9oDOgSZDNLvuHkzlfwk1X8bdaBg
- 7) **31. 3.** Privacy on the internet and online risks from social science perspectives.
 Motivations for sharing personal information on the internet in different environments, concerns about privacy, and misuse of personal data.
Presentation theme: Privacy, personal data and misuse of personal data from the perception of ICT users
Reading:

- Self-disclosure versus self-presentation on social media
<https://www.sciencedirect.com/science/article/pii/S2352250X19300685>

8) **7. 4.** Health and the Internet: eHealth and mHealth applications, introduction of eHealth, SW: eHealth and mHealth functions, results of experiments.

Presentation theme: Trust in mHealth applications. Why do people trust mHealth applications? What are the factors of trust for mHealth applications?

Reading:

- Chapter 6: Using Mobile Technology in Eating Behaviors
- Vision: Improved development of mobile eHealth applications

https://dl.acm.org/doi/pdf/10.1145/3197231.3197263?casa_token=KZEaspL7gowAAAAA:iV6TerNkaOyvwDzV_iVn9lhUFuyXSIwwT76fWEcHaZ56O41Mi7fE3vMEK8aki_WGr83bNHIKkaX2HA

9) **14. 4.** User and ICT security: User study - authentication methods. Results of the qualitative and quantitative research on authentication methods.

Presentation theme: The role of the user in the context of ICT security

Reading:

- Schaffer, K. (2019). Rethinking authentication. *IT professional*, 21(6), 52-55.
https://ieeexplore.ieee.org/stamp/stamp.jsp?arnumber=8896131&casa_token=bGu3PaFiIIIAAAA:InfzdUYzxfHaRqgNfzBhL30Cd9H4nzNPf5Ia9JJETV7Gomje349FrslJrAAooooEVuIRnZoc24A&tag=1
- Kružiková, A., Knapová, L., Gabrhelík, O., Šmahel, D., Dědková, L., Matyáš, V., Doležal, P., & Šmahelová, M. (2020). User Testing of Mobile Banking Authentication Methods: UX Testing, User Interviews, and Quantitative Survey. Brno: Masaryk University. https://irtis.muni.cz/media/3221965/usertesting_tacreport_2020r.pdf

10) **21. 4.** Artificial intelligence and its risks. Machine learning and the possibilities of its use.

Presentation theme: Security, trust, and artificial intelligence.

Reading: Ku, Chhaya A. Khanzode and Dr. Ravindra D. Sarode, Advantages and Disadvantages of Artificial Intelligence and Machine Learning: A Literature Review, *International Journal of Library & Information Science*, 9(1), 2020, pp. 30-36. [Available here.](#)

11) **28. 4.** Impact of digital media usage on wellbeing. Digital wellbeing.

Presentation theme: Software tools for digital wellbeing and its impact on users.

Literatura: Vanden Abeele, M. M. (2021). Digital wellbeing as a dynamic construct. *Communication Theory*, 31(4), 932-955.

12) **5. 5.** Experimental security research on internet usage: How to explore online security, the pitfalls and results of current research on online security.

Presentation theme: User's security perceptions. How do users perceive the security of ICT? What are user factors for online security perceptions?

Reading:

- Towards robust experimental design for user studies in security and privacy
<https://www.usenix.org/system/files/conference/laser2016/laser2016-paper-krol.pdf>

13) **12. 5.** Data anonymization (Mgr. Ondřej Sotolář)

Principles of personal data protection under GDPR, current topics in personal data anonymization for tabular and full text data. Privacy models: k-anonymity, differential privacy.

Presentation theme:

Personal data and fundamental principles and methods of data anonymization. What does the GDPR say about data protection? What data can we collect and store under what conditions? What general data protection should we employ?

Reading:

https://ec.europa.eu/justice/article-29/documentation/opinion-recommendation/files/2014/wp216_en.pdf

14) **19. 5.** Conclusion and summary of the course.

References:

boyd, d.m., Ellison, N.B. (2008). Social network sites: Definition, history, and scholarship. *Journal of Computer-Mediated Communication*, 13, 210–230.

Grawemeyer, B. & Johnson, H. (2011) Using and managing multiple passwords: A week to a view. *Interacting with Computers*. Volume 23, Issue 3, 256–267.

Gundu, T. & Flowerday, S.V. (2012). Ignorance to awareness: Towards an information security awareness process. *SAIEE Africa Research Journal*. Volume 104, Issue 2, 69-79.

McKenna, K. Y. A., & Bargh, J. A. (1999). Causes and Consequences of Social Interaction on the Internet: A Conceptual Framework. *Media Psychology*, 1(3), 249.

Mesch, G. S. (2009). Social context and communication channels choice among adolescents. *Computers in Human Behavior*, 25, 244-251.

Subrahmanyam, K., & Šmahel, D. (2011). *Digital Youth: The Role of Media in Development*. New York : Springer.

Suler, J. (2004). The online disinhibition effect. *Cyberpsychology & behavior*, 7(3), 321-326.

Suler, J. (2004). *The Psychology of Cyberspace*. Available online: <http://www-usr.rider.edu/~suler/psycyber/psycyber.html>

Tidwell, L. C., & Walther, J. B. (2002). Computer-mediated communication effects on disclosure, impressions, and interpersonal evaluations: Getting to know one another a bit at a time. *Human Communication Research*, 28(3), 317-348.

Valkenburg, P. M., & Peter, J. (2008). Adolescents' identity experiments on the Internet: Consequences for social competence and self-concept unity. *Communication Research*, 35, 208-231.

Valkenburg, P. M., & Peter, J. (2011). Online communication among adolescents: An integrated model of its attraction, opportunities, and risks. *The Journal of Adolescent Health*, 48, 121-127.

Walther, J. B., & D'Addario, K. P. (2001). The impacts of emoticons on message interpretation in computer-mediated communication. *Social Science Computer Review*, 19(3), 324-347.

Whitty, T. M. (2002). Liar, liar! An examination of how open, supportive and honest people are in chat rooms. *Computers in Human Behavior*, 18, 343-352.