

| Course # | Course Title                                  | Text/Ref. | Call #        | Title   | Author / Editor   | Publisher                                      | Note  |
|----------|---|-----------|---------------|---|---|--|---|
| I116E    | Fundamentals of Programming (E)               | Ref.      | C51.2/ S      | <a href="#">Problem Solving &amp; Programming Concepts [9th ed.]</a>  | Maureen Sprankle and Jim Hubbard                        | Pearson Education, 2012                        |   |
|          |   | Ref.      | C41.8/ L      | <a href="#">Introduction to Programming Using Python</a>  | Y. Daniel Liang   | Pearson, 2013                                  |   |
|          |   | Ref.      | C41.8/ Z      | <a href="#">Python Programming: An Introduction to Computer Science [3rd ed.]</a>   | John Zelle  | Franklin-Beedle, 2017                          |   |
|          |   | Ref.      | C41.8/ S      | <a href="#">An Introduction to Programming Using Python [Global ed.]</a>  | David I. Schneider                                      | Pearson, 2016                                  |   |
|          |   | Ref.      | C41.8/ D      | <a href="#">Python Programming for the Absolute Beginner [3rd ed.]</a>  | Michael Dawson  | Cengage/Course Technology, 2010                |   |
| I211     | Mathematical Logic                            | Ref.      | C22.3/ O      | <a href="#">情報科学における論理</a>  | 小野 寛晰   | 日本評論社, 1994                                    |   |
| I217E    | Functional Programming (E)                    | Ref.      | -             | CafeOBJ   |   |  | <a href="#">Available on the web</a><br><a href="http://cafeobj.org/">http://cafeobj.org/</a>   |
| I223     | Natural Language Processing                   | Ref.      | C45.1/ I / 15 | <a href="#">Shizen Gengo Shori (in Japanese) → 自然言語処理 (岩波講座ソフトウェア科学:15)</a>   | M. Nagao et al.   | Iwanami Publishers, 1996                       |   |
|          |   | Ref.      | C52.1/ A      | <a href="#">Natural Language Understanding [2nd ed.]</a>  | J. Allen  | The Benjamin/Cummings Publishing Company, 1995 |   |
|          |   | Ref.      | C52.1/ M      | <a href="#">Foundations of Statistical Natural Language Processing</a>  | C.D. Manning and H. Schutze                             | MIT-press, 1999                                |   |
|          |   | Ref.      | C52.1/ S      | <a href="#">Shizen Gengo Shori no Kiso (in Japanese) → 自然言語処理の基礎</a>  | N. Okazaki et al.                                       | Ohmsha, 2022                                   |   |
| I225     | Statistical Signal Processing                 | Ref.      | 411.1/ P      | <a href="#">Probability, random variables, and stochastic processes [3rd ed.]</a>   | A. Papoulis   | McGraw-Hill, 1991                              |   |
|          |   | Ref.      | C53.1/ K      | <a href="#">Estimation theory (Fundamentals of Statistical Signal Processing : 1)</a>   | Steven M. Kay   | Prentice Hall, 1993                            |   |
| I226E    | Computer Networks (E)                         | Text      | C33.1/ T      | <a href="#">Computer Networks [5th ed.]</a>   | A. S. Tanenbaum   | Prentice Hall, 2011                            |   |
|          |   | Ref.      | C33.1/ S      | <a href="#">Data and Computer Communications [9th ed.]</a>  | W. Stallings  | Prentice Hall, 2011                            |   |
|          |   | Ref.      | C33.1/ T      | <a href="#">Basic Information Network (in Japanese) → 情報ネットワークの基礎</a>   | Shuji Tasaka  | Mathematical Engineering Inc., 2003            |   |
|          |   | Ref.      | C33.1/ S / 1  | <a href="#">The Protocols (TCP/IP Illustrated ; vol. 1)</a>   | W. Richard Stevens                                      | Addison-Wesley, 1994                           |   |
|          |   | Ref.      | C33 / O       | <a href="#">Introduction to Computer Network: TCP/IP Protocol Suite and Security (in Japanese) → コンピュータネットワーク入門 : TCP/IPプロトコル群とセキュリティ</a> | Masato Oguchi   | Computer Science Library, 2007                 |   |
| I232     | Information Theory                            | Text      | C21.1/ U      | <a href="#">An Illustrated Guide to Viewpoint of Information Theory (in Japanese) → イラストで学ぶ 情報理論の考え方</a>                                  | Tomohiko Uematsu  | 講談社, 2012                                      |   |
|          |   | Ref.      | C21.1/ C      | <a href="#">Elements of Information Theory [2nd ed.]</a>  | Thomas Covers and Joy Thomas                            | Wiley, 2006                                    | <a href="#">Only available from JAIST network</a><br><a href="https://onlinelibrary.wiley.com/book/10.1002/047174882X">https://onlinelibrary.wiley.com/book/10.1002/047174882X</a>  |
| I233E    | Operating Systems (E)                         | Text      | C44.1/ S      | <a href="#">Operating system concepts [10th ed., global ed.]</a>  | Abraham Silberschatz, Peter Baer Galvin, Greg Gagne     | Wiley, 2019                                    |   |
|          |   | Ref.      | C44.1/ T      | <a href="#">Modern Operating Systems [4th ed., global ed.]</a>  | Andrew S. Tanenbaum, Herbert Bos                        | Pearson, 2015                                  |   |
| I237E    | Formal Languages and Automata (E)             | Ref.      | C23.2/ K      | <a href="#">Automata and Computability</a>  | Dexter C. Kozen   | Springer, 1997                                 |   |
|          |   | Ref.      | C23.2/ H      | <a href="#">Introduction to Automata Theory, Languages, and Computation [3rd ed.]</a>   | J. E. Hopcroft, R. Motowani, J. D. Ullman               | Addison-Wesley, 2007                           |   |
| I238     | Computation Theory                            | Text      | C23.2/ S      | <a href="#">Introduction to the Theory of Computation [3rd ed.]</a>   | M. Sipser   | Cengage Learning, 2013                         |   |
|          |   | Ref.      | C23.2/ H      | <a href="#">Introduction to Automata Theory, Languages, and Computation [3rd ed.]</a>   | John E. Hopcroft, Rajeev Motwani, and Jeffrey D. Ullman | Pearson, 2007                                  |   |
| I437E    | Coding Theory (E)                             | Ref.      | C21.1/ J      | <a href="#">Iterative Error Correction: Turbo, Low-Density Parity-Check and Repeat-Accumulate Codes</a>                                   | Sarah Johnson   | Cambridge University Press, 2010               |   |
|          |   | Ref.      | C21.1/ B      | <a href="#">Algebraic Codes for Data Transmission</a>   | Richard Blahut  | Cambridge University Press, 2003               |   |
| I443     | Foundation of Software Verification           | Ref.      | C54.2/ H      | <a href="#">The Spin Model Checker : Primer and Reference Manual</a>  | G.J.Holzmann  | Addison-Wesley, 2004                           |   |
|          |   | Ref.      | C23.1/ M      | <a href="#">Mathematical Theory of Computation</a>  | Z.Manna   | McGraw-Hill, 1974                              |   |
|          |   | Ref.      | C42 / D       | <a href="#">A Discipline of Programming</a>   | E.W.Dijkstra  | Prentice Hall, 1976                            |   |
|          |   | Ref.      | C41 / W       | <a href="#">The Formal Semantics of Programming Languages</a>   | G.Winskel   | The MIT Press, 1993                            |   |
| I466     | Introduction to International Standardization | Ref.      | -             | TTC texts for standadization  |   |  | <a href="#">Available on the web</a><br><a href="https://www.ttc.or.jp/activities/sdt_text">https://www.ttc.or.jp/activities/sdt_text</a>   |
|          |   | Ref.      | -             | Introduction to standardization practice  | METI  |  | <a href="#">Available on the web</a><br><a href="https://www.meti.go.jp/policy/economy/hyojun-kijun/katsuyo/jitsumu-nyumon/pdf/2015text_zenbun.pdf">https://www.meti.go.jp/policy/economy/hyojun-kijun/katsuyo/jitsumu-nyumon/pdf/2015text_zenbun.pdf</a> |

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| I466S    | Advanced Information Security Theory and Application | Text      | C21.2/ M | <a href="#">代数学から学ぶ暗号理論</a>  | 宮地充子著                            | 日本評論社, 2012                 |  |
|          |  | Text      | C21.2/ J | <a href="#">情報セキュリティ (IT Text)</a>   | 宮地充子、菊池浩明編                       | オーム社, 2003                  |  |
|          |  | Text      | C45.2/ J | <a href="#">抽象によるソフトウェア設計 Alloyではじめる形式手法</a>   | Daniel Jackson, 中島 震             | オーム社, 2011                  |  |
|          |  | Text      | C41/ A   | <a href="#">Advanced Topics in Types and Programming Languages</a>   | Benjamin C. Pierce編              | The MIT Press, 2005         |  |
| I489     | Advanced Lectures on Public-Key Cryptography         | Ref.      | -        | A Graduate Course in Applied Cryptography:   |                                  |                             | <a href="https://toc.cryptobook.us/">Available on the web https://toc.cryptobook.us/</a>                     |
|          |  | Ref.      | C21.2/ P | <a href="#">A Decade of Lattice Cryptography</a>   | Chris Peikert                    | now, 2016                   | <a href="https://eprint.iacr.org/2015/939.pdf">Available on the web https://eprint.iacr.org/2015/939.pdf</a> |
| I660E    | Advanced Natural Language Processing (E)             | Ref.      | C52.1/ J | <a href="#">Speech and Language Processing : an introduction to natural language processing, computational linguistics, and speech recognition [2nd ed.]</a> | Daniel Jurafsky, James H. Martin | Pearson/Prentice Hall, 2009 |  |
|          |  | Ref.      | C52.1/ J | <a href="#">Speech and Language Processing : an introduction to natural language processing, computational linguistics, and speech recognition [2nd ed.]</a> | Daniel Jurafsky, James H. Martin | Pearson/Prentice Hall, 2009 |  |