

Master's Program Subject and Completion Requirements 2018

Department of Information and Physical Sciences

| Code   | A completion requirements item name<br>and subject name                            | Instructor  | Unit | School hour a week            |                             |                               |                             | Unit<br>multiplication<br>method | Necessary<br>lower limit<br>units | Necessary<br>lower<br>limit units |   |   |  |
|--------|--|---|------|-------------------------------|-----------------------------|-------------------------------|-----------------------------|----------------------------------|-----------------------------------|-----------------------------------|---|---|--|
|        |  |   |      | 1st.Grade                     |                             | 2nd.Grade                     |                             |                                  |                                   |                                   |   |   |  |
|        |  |   |      | Spring and<br>Summer<br>Terms | Fall and<br>Winter<br>Terms | Spring and<br>Summer<br>Terms | Fall and<br>Winter<br>Terms |                                  |                                   |                                   |   |   |  |
|        | Total  |   |      |                               |                             |                               |                             | (1)+(2)                          | 30                                |                                   |   |   |  |
|        | (1)Core Subjects   |   |      |                               |                             |                               |                             | (1,1)+(1,2)                      | 22                                |                                   |   |   |  |
|        | (1,1)Core Subjects(Required)   |   |      |                               |                             |                               |                             | Σ                                | 7                                 |                                   |   |   |  |
| 331212 | Exercises on Information and Physical<br>Sciences I                                | All Staff   | 2    | 2                             | 2                           |                               |                             |                                  |                                   |                                   |   |   |  |
| 331213 | Exercises on Information and Physical<br>Sciences II                               | All Staff   | 2    | 2                             | 2                           |                               |                             |                                  |                                   |                                   |   |   |  |
| 331214 | Research on Information and Physical<br>Sciences I                                 | All Staff   | 3    | 4.5                           | 4.5                         |                               |                             |                                  |                                   |                                   |   |   |  |
|        | (1,2)Core Subjects(Elective)   |   |      |                               |                             |                               |                             |                                  |                                   |                                   | Σ | 0 |  |
| 331203 | Computational Informatics  | Takayuki Wada   | 2    |                               | 2                           |                               |                             |                                  |                                   |                                   |   |   |  |
| 331204 | Mathematical Programming   | Shunji Umetani  | 2    | 2                             |                             |                               |                             |                                  |                                   |                                   |   |   |  |
| 331225 | Topics on Nonlinear Phenomena  | Hideyuki Suzuki   | 2    |                               | 2                           |                               |                             |                                  |                                   |                                   |   |   |  |
| 331206 | Nonlinear Analysis   | Yoshitaka Yamamoto  | 2    | 2                             |                             |                               |                             |                                  |                                   |                                   |   |   |  |
| 331207 | Applied Information Analysis   | Yasumasa Fujisaki   | 2    | 2                             |                             |                               |                             |                                  |                                   |                                   |   |   |  |
| 331208 | Advanced Statistical Analysis  | Hiroshi Morita  | 2    |                               | 2                           |                               |                             |                                  |                                   |                                   |   |   |  |
| 331210 | Seminar on Information and Physical<br>Sciences I                                  | All Staff   | 2    | 1                             | 1                           |                               |                             |                                  |                                   |                                   |   |   |  |
| 331211 | Seminar on Information and Physical<br>Sciences II                                 | All Staff   | 2    | 1                             | 1                           |                               |                             |                                  |                                   |                                   |   |   |  |
| 331215 | Research on Information and Physical<br>Sciences II                                | All Staff   | 3    |                               |                             | 4.5                           | 4.5                         |                                  |                                   |                                   |   |   |  |
| 331216 | Special Lectures on Information and<br>Physical Sciences I                         | (Joao Pedro Pedroso)  | 2    | 2                             |                             |                               |                             |                                  |                                   |                                   |   |   |  |
| 331217 | Special Lectures on Information and<br>Physical Sciences II                        | (Undecided)   | 2    |                               | 2                           |                               |                             |                                  |                                   |                                   |   |   |  |
| 331218 | Information Physics I  | Jun Tanida  | 2    | 2                             |                             |                               |                             |                                  |                                   |                                   |   |   |  |
| 331219 | Information Physics II   | Yusuke Ogura  | 2    |                               | 2                           |                               |                             |                                  |                                   |                                   |   |   |  |
| 331220 | Intelligence and Learning  | Masayuki Numao  | 2    | 2                             |                             |                               |                             |                                  |                                   |                                   |   |   |  |
| 331224 | Knowledge Informatics  | Kenichi Fukui   | 2    |                               | 2                           |                               |                             |                                  |                                   |                                   |   |   |  |
| 331222 | Advanced Introduction to Information<br>Physical Science                           | All Staff   | 2    | 2                             |                             |                               |                             |                                  |                                   |                                   |   |   |  |
| 331223 | Internship on Information and Physical<br>Sciences                                 | Yasumasa Fujisaki<br>Jun Tanida<br>Hiroshi Morita<br>Masayuki Numao<br>Hideyuki Suzuki  | 2    | 3                             | 3                           |                               |                             |                                  |                                   |                                   |   |   |  |
|        | (2)Elective subject  |   |      |                               |                             |                               |                             | (2,1)+(2,2)+(2,3)                | 0                                 |                                   |   |   |  |
|        | (2,1)Inter-disciplinary Subjects   |   |      |                               |                             |                               |                             | Σ                                | 0                                 |                                   |   |   |  |
| 331005 | Information Technology and Ethics  | Staffs of dept. of<br>Information Systems<br>Engineering<br>Staffs of dept. of<br>Multimedia<br>Engineering<br>(Michio Nakanishi) | 2    | 2                             |                             |                               |                             |                                  |                                   |                                   |   |   |  |
| 331006 | English Presentation Skills  | Eum Suyong  | 2    | *2                            | *2                          |                               |                             |                                  |                                   |                                   |   |   |  |
| 331014 | The Foundation of Intellectual Property<br>(Focusing on Computer Science)          | Hidefumi Aoe & Other  | 2    |                               | 2                           |                               |                             |                                  |                                   |                                   |   |   |  |
| 331030 | Innovation Management  | Minoru Eto<br>Yuko Sasahara   | 2    | 2                             |                             |                               |                             |                                  |                                   |                                   |   |   |  |
| 331130 | Computational Mathematics I  | Daisuke Furihata  | 2    | 2                             |                             |                               |                             |                                  |                                   |                                   |   |   |  |
| 331131 | Computational Mathematics II   | Tsuyoshi Chawanya   | 2    |                               | 2                           |                               |                             |                                  |                                   |                                   |   |   |  |
| 331132 | Applied Mathematics  | Takayuki Hibi   | 2    | 2                             |                             |                               |                             |                                  |                                   |                                   |   |   |  |
| 331135 | Topics in Frontiers of Mathematics   | Susumu Arika  | 2    |                               | 2                           |                               |                             |                                  |                                   |                                   |   |   |  |
| 331325 | Fundamentals of Computer Science   | All staff of dept. of<br>Computer Science   | 2    | 2                             |                             |                               |                             |                                  |                                   |                                   |   |   |  |
| 331406 | Image Signal Processing  | Koji Nakamae<br>Katsuyoshi Miura  | 2    |                               | 2                           |                               |                             |                                  |                                   |                                   |   |   |  |
| 331525 | Advanced Introduction to Information<br>Networking                                 | All staff of dept. of<br>Information  | 2    |                               | 2                           |                               |                             |                                  |                                   |                                   |   |   |  |
| 331621 | Informartion Security  |   | 2    |                               |                             |                               |                             |                                  |                                   |                                   |   |   |  |
| 331639 | Studies on International Integrated<br>Sciences                                    | Leibnitz Kenji<br>Ferdinand Peper<br>Siriteanu Constantin   | 2    | 2                             |                             |                               |                             |                                  |                                   |                                   |   |   |  |
| 331426 | Introduction to Exercises on Information<br>Engineering for Interactive Creation A | Taro Maeda<br>Haruo Takemura<br>Toru Fujiwara<br>Hideyuki Ando<br>Susumu Date<br>Yuichi Ito                                       | 4    | 4                             | 4                           |                               |                             |                                  |                                   |                                   |   |   |  |
| 331702 | Molecular Bio-information Analysis   | Hideo Matsuda<br>Shigeto Senoo  | 2    | 2                             |                             |                               |                             |                                  |                                   |                                   |   |   |  |
| 331720 | Bio-network engineering  | Naoki Wakamiya<br>Jun-nosuke Teramae  | 2    | 2                             |                             |                               |                             |                                  |                                   |                                   |   |   |  |
| 331724 | Introduction to Bioinformatic<br>Engineering                                       | All staff of dept. of<br>Bioinformatic<br>Engineering   | 2    | 2                             |                             |                               |                             |                                  |                                   |                                   |   |   |  |
| 331732 | Introduction to Integrated Biological and<br>Information Engineering               | Hiroshi Shimizu<br>Yoshihiro Toya   | 2    | 2                             |                             |                               |                             |                                  |                                   |                                   |   |   |  |

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|--------|--|--|------|-------------------------|-----------------------|-------------------------|-----------------------|----------------------------|-----------------------------|-----------------------------|
|        |  |  |      | 1st.Grade               |                       | 2nd.Grade               |                       |                            |                             |                             |
|        |  |  |      | Spring and Summer Terms | Fall and Winter Terms | Spring and Summer Terms | Fall and Winter Terms |                            |                             |                             |
| 331332 | Fundamentals of Software Development on Cloud Environment  | Katsuro Inoue<br>Shinji Kusumoto<br>Shusuke Haruna & Other | 2    | 2                       |                       |                         |                       |                            |                             |                             |
| 331333 | Exercise for Software Development on Cloud Environment     | Katsuro Inoue<br>Shinji Kusumoto<br>Shusuke Haruna & Other | 2    | 2                       | 2                     |                         |                       |                            |                             |                             |
| 331336 | Advanced PBL for Software Development on Cloud Environment | Katsuro Inoue<br>Shinji Kusumoto<br>Shusuke Haruna & Other | 2    |                         | 2                     |                         |                       |                            |                             |                             |
|        | (2,2)Oters   |  |      |                         |                       |                         |                       |                            | 0                           |                             |
|        | (2,3)Academic Internship Abroad                            |  |      |                         |                       |                         |                       | MAX{(2,3,1),(2,3,2         | 0                           |                             |
|        | (2,3,1)S   |  |      |                         |                       |                         |                       |                            | 0                           |                             |
| 331025 | Academic Internship Abroad M(S)                            | All Staff  | 4    | 6                       | 6                     | (※6)                    |                       |                            |                             |                             |
|        | (2,3,3)L   |  |      |                         |                       |                         |                       |                            | 0                           |                             |
| 331027 | Academic Internship Abroad M(L)                            | All Staff  | 8    | 12                      | 12                    | (※12)                   |                       |                            |                             |                             |

- Note1) 1. Σ= Integrate the total number of credits for subjects with a slant line directly below.  
2. MAX= Integrate only one subject with the maximum number of credits.  
3. The class with \* is held twice a year. However, registration is limited according to the department.  
4. The class is not offered this year when the instructor's name field is blank.  
5. Requirements for Completion; Students must receive 30 credits or more from this table, and pass a final evaluation of their master's thesis.  
6. M1 students can register Academic Internship AbroadM(S),M(L) from "fall and winter terms" through "spring and summer terms".

- Note2) 1. The requirements to complete "Cloud Spiral" course shall be prescribed separately.  
2. 331332, 331333 and 331336 are offered only for "Cloud Spiral" course students. (held at Nakanoshima center)