## Master's Program Subject and Completion Requirements 2025

| Departi  | ment of I          | Information Systems Engineering  | <u></u>  | 1    | School hour a week                        |                 |                 |                 | r                             | <u>г                                    </u> | 1                    |
|--|--------------------|--|--|------|---|-----------------|-----------------|-----------------|-------------------------------|--|----------------------|
| Code   | Classific<br>ation | A completion requirements item name and subject name   | Instructor   |      | School hour a week<br>1st.Grade 2nd.Grade |                 |                 | Grade           | Unit multiplication           | Necessary                                    | Upper                |
|  |                    |  |  | Unit | Spring and Fall and                       |                 | Spring and      | Fall and        | Unit multiplication<br>method | lower  | Upper<br>limit units |
|  |                    |  |  | L    | Summer<br>Terms                           | Winter<br>Terms | Summer<br>Terms | Winter<br>Terms |                               | limit units                                  | iiiiii uiiio         |
|  |                    | Total  |  |      |   |                 |                 |                 | 1+2                           | 30   |                      |
|  |                    | 1.Advanced Liberal Arts Educational subjects (se   | lect from the attached list  | "「富庶 | 参数者利                                      | 日リスト(信寿         | 影システム工会         | 之<br>(1)<br>(1) |                               | 2  |                      |
|  |                    | -  |  |      | 4444411                                   | 1 // · · (11 1  |                 |                 | (1)+(2)                       | 28   |                      |
|  |                    | 2.Major Subjects · Advanced Global Literacy Educ   | ational subjects   |      |   | -               | -               |                 |                               |  |                      |
|  |                    | (1)Core Subjects   |  |      |   |                 |                 |                 | (1,1)+(1,2)+(1,3)             | 22   |                      |
|  |                    | (1,1)Core Subjects (Required)  |  |      |   |                 |                 |                 | Σ                             | 4  |                      |
| 331421   | М                  | Research on Information Systems Engineering  | All Staff  | 2    | 6   |                 |                 |                 |                               |  |                      |
| 331421   | IVI                | Ia   | All Stall  | 2    | 0   |                 |                 |                 |                               | _  |                      |
|  |                    | Research on Information Systems Engineering  |  |      |   |                 |                 |                 |                               |  |                      |
| 331422   | м                  | Ib   | All Staff  | 2    |   | 6               |                 |                 |                               |  |                      |
|  |                    |  |  | 1    |   |                 |                 |                 | (1.0.1) (1.0.0)               |  |                      |
|  |                    | (1,2)Core Subjects (Required Elective)   |  |      |   |                 |                 |                 | (1,2,1)or(1,2,2)              | 4  | 4                    |
|  |                    | (1,2,1)Required Elective Subjects 1  |  |      |   |                 |                 |                 | Σ                             | 0  |                      |
| 331413   | м                  | Exercises on Information Systems Engineering I   | All Staff  | 2    | 4   |                 |                 |                 |                               |  |                      |
| 331413   | IVI                | Exercises on information systems Engineering I   | All Stall  | 4    | 4   |                 |                 |                 |                               | _  |                      |
|  |                    | Exercises on Information Systems Engineering   |  |      |   |                 |                 |                 |                               |  |                      |
| 331414   | м                  | II   | All Staff  | 2    |   | 4               |                 |                 |                               |  |                      |
|  |                    | (1,0,0) Described Electric Children  |  |      |   |                 |                 |                 |                               | 0  |                      |
|  |                    | (1,2,2)Required Elective Subjects 2  |  |      |   |                 |                 |                 |                               | 0  |                      |
|  |                    |  |  |      |   |                 |                 |                 |                               |  |                      |
|  |                    | Interdention to English on Information   | Taro Maeda   |      |   |                 |                 |                 |                               |  |                      |
| 331426   | М                  | Introduction to Exercises on Information<br>Engineering for Interactive Creation A   | Susumu Date<br>Yuki Uranishi   | 4    | 4   | 4               |                 | 1               |                               |  |                      |
|  |                    |  | Masahiro Furukawa  | 1    |   |                 |                 |                 |                               |  |                      |
|  |                    |  |  | 1    |   | 1               |                 |                 |                               |  | $\sim$               |
|  |                    | (1,3)Core Subjects(Elective)   |  |      |   |                 |                 |                 | Σ                             | 0  |                      |
|  |                    |  | Ryuji Fukushima  |      |   |                 |                 |                 | k –                           |  |                      |
|  |                    |  | Taishi Takahashi   |      |   |                 |                 |                 | Ν                             |  |                      |
|  |                    |  | Yoichi Chikahara   |      |   |                 |                 |                 |                               |  |                      |
| 331003   | м                  | Special Lectures on Information Science &  | Masahiro Mizukami  | 2    | 2   |                 |                 |                 |                               |  |                      |
|  |                    | Technology I   | Hiroki Higuchi<br>Hiroshi Ban  |      |   |                 |                 |                 |                               |  |                      |
|  |                    |  | Yasushi Naruse   |      |   |                 |                 |                 |                               |  |                      |
|  |                    |  | Nobuhiro Hagura  |      |   |                 |                 |                 |                               |  |                      |
|  |                    | Special Lectures on Information Science &  | (Toshiyuki Kano)   |      |   |                 |                 |                 | 1 \                           |  |                      |
| 331004   | м                  | Technology II  | (Norihiko Taya)  | 2    |   | 2               |                 |                 |                               |  |                      |
|  |                    |  |  |      |   |                 |                 |                 | - \                           |  |                      |
| 331431   | м                  | Machine Learning Systems Theory  |  | 2    |   |                 |                 |                 |                               |  |                      |
|  |                    |  |  |      |   |                 |                 |                 | 1 \                           |  |                      |
|  |                    |  | Yoshinobu Kawahara<br>Masahiro Ikeda   |      |   |                 |                 |                 |                               |  |                      |
| 331432   | Μ                  | Machine Learning for Dynamical Systems   | Takuya Konishi   | 2    | 2   |                 |                 |                 |                               |  |                      |
|  |                    |  | Masahiro Fujisawa  |      |   |                 |                 |                 |                               |  |                      |
|  |                    |  | Takao Onoye<br>Ittetsu Taniguchi   |      |   |                 |                 |                 |                               |  |                      |
| 331404   | М                  | Computer-Aided System-on-a-Chip Design   | Norio Ito  | 2    | 2   |                 |                 |                 | \                             |  |                      |
|  |                    | r r r r g  | Kimihiko Imamura   |      |   |                 |                 |                 | 1 \                           |  |                      |
|  |                    |  | Shohei Yamada  |      |   |                 |                 |                 |                               | ١  |                      |
|  |                    |  |  |      |   |                 |                 |                 |                               | \  |                      |
| 331419   | м                  | Integrated System Architecture and Synthesis   |  | 2    |   |                 |                 |                 |                               | \  |                      |
|  |                    |  |  |      |   |                 |                 |                 |                               | \  |                      |
|  |                    |  |  |      |   |                 |                 |                 | _                             |  |                      |
|  |                    |  | Takao Onoye  |      |   |                 |                 |                 |                               | \  |                      |
|  |                    | Design Methodology of Advanced Information   | Ittetsu Taniguchi  |      |   |                 |                 |                 |                               | \  |                      |
| 331410   | м                  | Systems  | Norio Ito<br>Kimihiko Imamura  | 2    |   | 2               |                 |                 |                               | \  |                      |
|  |                    |  | Shohei Yamada  |      |   |                 |                 |                 |                               |  |                      |
|  |                    |  | Noriyuki Miura   | 1    |   | +               | 1               |                 | 1                             | \  |                      |
| 331428   | М                  | Advanced Computing Systems   | Jun Shiomi   | 2    | 2   |                 |                 |                 | ]                             | \  |                      |
| 331429   | М                  | Advanced Information Systems   |  | 2    |   | 1               |                 |                 | 4                             |  | \                    |
| 331408   | М                  | Concurrent Systems   | Tatsuhiro Tsuchiya   | 2    | 2   | 1               |                 | 1               |                               |  | 1                    |
| 331420   | М                  | Dependable Systems   |  | 2    |   |                 |                 |                 | ]                             |  | \                    |
| 331409<br>331411                               | M<br>G · M         | System Interface Design  | Yuki Uranishi<br>All Staff   | 2    | 2 2                                       | +               | -               |                 | -                             |  | \                    |
| 001411   | M                  | Seminar on Information Systems Engineering I<br>Seminar on Information Systems Engineering II  | All Staff<br>All Staff   | 2    | 4   | 2               | 1               |                 | 1                             |  | \                    |
|  |                    | Research on Information Systems Engineering  | All Staff  | 2    |   | 1 -             | 6               | l –             | 1                             |  | \                    |
| 331412   | м                  |  | ···· Null  |      |   |                 | 0               |                 | 4                             |  | \                    |
|  | М                  | IIa<br>Bassando an Information Systems Engineering   |  | 2    |   | 1               |                 | 6               |                               |  | \                    |
| 331412   | M<br>M             | Research on Information Systems Engineering  | All Staff  | 4    |   |                 |                 | 1               | -                             |  | 1                    |
| 331412<br>331423<br>331424                     | М                  | Research on Information Systems Engineering<br>IIb   | All Staff  |      |   |                 |                 |                 |                               |  | 1                    |
| 331412<br>331423                               |                    | Research on Information Systems Engineering  | All Staff<br>(Except Collaborative   | 2    | 3   | 3               |                 |                 |                               |  | \                    |
| 331412<br>331423<br>331424                     | М                  | Research on Information Systems Engineering<br>IIb<br>Internship on Information Systems Engineering  | All Staff  |      | 3   | 3               |                 |                 | (0,1), (0,2), (1,-2)          |  | \                    |
| 331412<br>331423<br>331424                     | М                  | Research on Information Systems Engineering<br>IIb   | All Staff<br>(Except Collaborative   |      | 3   | 3               |                 |                 | (2,1)+(2,2)+(2,3)             |  | \                    |
| 331412<br>331423<br>331424                     | М                  | Research on Information Systems Engineering<br>IIb<br>Internship on Information Systems Engineering  | All Staff<br>(Except Collaborative   |      | 3   | 3               |                 |                 | (2,1)+(2,2)+(2,3)<br>Σ        | 0  | \                    |
| 331412<br>331423<br>331424                     | М                  | Research on Information Systems Engineering<br>IIb<br>Internship on Information Systems Engineering<br>(2)Elective subject                                     | All Staff<br>(Except Collaborative   |      | 3   | 3               |                 |                 |                               | 0  |                      |
| 331412<br>331423<br>331424                     | М                  | Research on Information Systems Engineering<br>IIb<br>Internship on Information Systems Engineering<br>(2)Elective subject                                     | All Staff<br>(Except Collaborative<br>Division)<br>Staffs of dept. of<br>Information Systems   |      | 3   | 3               |                 |                 |                               | 0  |                      |
| 331412<br>331423<br>331424<br>331425           | M<br>M             | Research on Information Systems Engineering<br>IIb<br>Internship on Information Systems Engineering<br>(2)Elective subject<br>(2,1)Inter-disciplinary Subjects | All Staff<br>(Except Collaborative<br>Division)<br>Staffs of dept. of<br>Information Systems<br>Engineering  | 2    |   | 3               |                 |                 |                               | 0  |                      |
| 331412<br>331423<br>331424                     | М                  | Research on Information Systems Engineering<br>IIb<br>Internship on Information Systems Engineering<br>(2)Elective subject                                     | All Staff<br>(Except Collaborative<br>Division)<br>Staffs of dept. of<br>Information Systems   |      | 3   | 3               |                 |                 |                               | 0  |                      |
| 331412<br>331423<br>331424<br>331425           | M<br>M             | Research on Information Systems Engineering<br>IIb<br>Internship on Information Systems Engineering<br>(2)Elective subject<br>(2,1)Inter-disciplinary Subjects | All Staff<br>(Except Collaborative<br>Division)<br>Staffs of dept. of<br>Information Systems<br>Engineering<br>Staffs of dept. of<br>Multimedia<br>Engineering | 2    |   | 3               |                 |                 |                               | 0  |                      |
| 331412<br>331423<br>331424<br>331424<br>331425 | M<br>M             | Research on Information Systems Engineering<br>IIb<br>Internship on Information Systems Engineering<br>(2)Elective subject<br>(2,1)Inter-disciplinary Subjects | All Staff<br>(Except Collaborative<br>Division)<br>Staffs of dept. of<br>Information Systems<br>Engineering<br>Staffs of dept. of<br>Multimedia                | 2    |   | 3               |                 |                 |                               | 0  |                      |

## Master's Program Subject and Completion Requirements 2025

|                         |  | nformation Systems Engineering  |   |      |            | School hou | ır a week  |          |                      |             |             |
|-------------------------|--|---|---|------|------------|------------|------------|----------|----------------------|-------------|-------------|
| Code                    | Classific                                | A completion requirements item name and subject name                      |   |      | 1st.Grade  |            | 2nd.Grade  |          | Unit multiplication  | Necessary   | Upper       |
|                         | ation                                    |   | Instructor  | Unit | Spring and | Fall and   | Spring and | Fall and | method               | lower       | limit units |
|                         |  |   |   |      | Summer     | Winter     | Summer     | Winter   |                      | limit units |             |
|                         |  |   | (Shuichi Mukai)   |      | Terms      | Terms      | Terms      | Terms    | 1                    |             |             |
| 331014                  | м  | The Foundation of Intellectual Property<br>(Focusing on Computer Science) | (Tsuyoshi Masuda)<br>& Other  | 2    |            | 2          |            |          |                      |             |             |
| 331030                  | м  | Innovation Management   | Minoru Eto<br>Yuko Sasahara<br>Takaaki Kitajima   | 2    | 2          |            |            |          |                      |             |             |
| 331203                  | М  | Computational Informatics   | (Undecided)   | 2    |            |            |            |          | 1 \                  |             |             |
| 331204                  | М  | Mathematical Programming  | Yutaro Yamaguchi  | 2    | 2          |            |            |          | 1 \                  |             |             |
| 331222                  | М  | Advenced Introduction to Information Pysicscal<br>Science                 | All staff of dept. of<br>Information and<br>Physical Sciences                           | 2    | 2          |            |            |          |                      |             |             |
| 331226                  | М  | Introduction to Smart Contracts   | Kenji Yamada<br>Kayo Yoshimoto<br>Hiroshi Noguchi<br>Kozou Ohtani                       | 2    | 2          |            |            |          |                      |             |             |
| 331307                  | М  | Algorithm Design  |   | 2    |            |            |            |          |                      |             |             |
| 331308                  | М  | Theory of Distributed System Software                                     | Taisuke Izumi   | 2    |            | 2          |            |          | 1 /                  |             |             |
| 331325                  | м  | Fundamentals of Computer Science  | All staff of dept. of<br>Computer Science   | 2    | 2          |            |            |          |                      |             |             |
| 331338                  | м  | Computational Phogography   | Hajime Nagahara<br>Tomoya Nakamura  | 2    |            | 2          |            |          | ] \                  | ١           |             |
| $\frac{331503}{331507}$ | M<br>M                                   | Information Network Architecture<br>Mobile Computing                      |   | 2    |            |            |            |          |                      | \           |             |
| 331307                  | IVI                                      |   | Hirozumi Yamaguchi  | 2    |            |            |            |          | _                    | 1           |             |
| 331508                  | М  | Mobile Communication Protocols  | Akira Uchiyama<br>Viktor Erdelyi  | 2    |            | 2          |            |          | -                    |             |             |
| 331511                  | м  | Economics of Information Network  | Hirozumi Yamaguchi<br>Akira Uchiyama<br>(Keita Arai)                                    | 2    | 2          |            |            |          |                      |             |             |
| 331525                  | м  | Advanced Introduction to Information<br>Networking                        | All staff of dept. of<br>Information Networking   | 2    |            | 2          |            |          |                      |             |             |
| 331601                  | М  | Architecture for Multimedia Systems                                       | Susumu Date<br>Kazuhide Kojima<br>Yoshiyuki Kido  | 2    | 2          |            |            |          |                      |             |             |
| 331635                  | М  | Big Data Engineering  | Makoto Onizuka<br>Chuan Xiao  | 2    | 2          |            |            |          |                      |             |             |
| 331636                  | М  | Big Data Analytics  |   | 2    |            |            |            |          |                      | ١           | ١           |
| 331621                  | м  | Information Security  | Takanori Isobe<br>Kyosuke Yamashita   | 2    | 2          |            |            |          |                      |             |             |
| 331639                  | $\mathbf{G}\boldsymbol{\cdot}\mathbf{M}$ | Studies on International Integrated Sciences                              | Leibnitz Kenji<br>Ferdinand Peper   | 2    | 2          |            |            |          |                      |             |             |
| 331637                  | М  | Robot Vision  |   | 2    |            |            |            |          |                      |             | 1           |
| 331701                  | М  | Bio-database Engineering  | Shigeto Seno  | 2    | 4 (Spring) | -          | 1          |          | 1                    |             | 1           |
| 331709                  | M  | Human Information Processing  |   | 2    | - wpring)  | 1          | 1          |          | 1                    |             | 1           |
| 331720                  | M  | Bio-network Engineering   |   | 2    |            |            |            |          | 1                    |             | \           |
| 331724                  | М  | Introduction to Bioinformatic Engineering                                 | All staff of dept. of<br>Bioinformatic<br>Engineering                                   | 2    | 2          |            |            |          |                      |             |             |
| 331732                  | М  | Introduction to Integrated Biological and<br>Information Engineering      | Hiroshi Shimizu<br>Fumio Matsuda<br>Yoshihiro Toya<br>Nobuyuki Okahashi<br>Teppei Niide | 2    | 2          |            |            |          |                      |             |             |
|                         |  | (2,2)Others   |   |      |            |            |            |          |                      | 0           |             |
|                         |  | (2,3)Academic Internship Abroad   |   |      |            |            |            |          | MAX{(2,3,1),(2,3,2)} | 0           |             |
|                         |  | (2,3,1)   |   |      | 1          | 1          | 1          |          |                      | 0           |             |
| 331025                  | $\mathbf{G} \cdot \mathbf{M}$            | Academic Internship Abroad M(S)   | All Staff   | 4    | 6          | 6          | (6)        | 1        |                      |             |             |
|                         |  | (2,3,2)   |   |      |            |            |            |          |                      | 0           |             |
| 331027                  | G·M                                      | Academic Internship Abroad M(L)   | All Staff   | 8    | 12         | 12         | (12)       |          |                      |             | l           |
|                         | i  | · · · · · · ·   | 1   |      | 1          | 1          | 1          |          | 1                    | Î.          | 1           |

Note)

1.  $\Sigma$ = Integrate the total number of credits for subjects with a slant line directly below.

MAX= Integrate only one subject with the maximum number of credits. 2.

3. The class with \* is held twice a year. However, registration is limited according to the department.

 $4. \ \mbox{The class is not offered this year when the instructor's name field is blank.}$ 

5. Requirements for Completion: Students must receive 30 credits or more from this table, and pass a final evaluation of their master's thesis. In the 30 credits, students must include 22 credits of Major subjects, 1 credit of Advanced Global Literacy Educational subjects, and 2 credits of Advanced Liberal Arts Educational subjects. 6

MI students can register Academic Internship AbroadM(S), M(L) from "fall and winter terms" through "spring and summer terms". "M" in the classification column represents Major subjects, "G" represents Advanced Global Literacy Educational subjects, and "G • M" represents subjects with both Advanced Global Literacy Educational and Major subjects' characteristics. 7.

If you have acquired subjects with both Advanced Global Literacy Educational and Major subjects' characteristics, the credits will be included preferentially for Advanced Global Literacy Educational subjects is already fulfilled, it will be included for Major subjects. 8. 9.

With regard to Advanced Liberal Arts Educational subjects and Advanced Global Literacy Educational subjects is already fullified, it will be included for Major subjects. With regard to Advanced Liberal Arts Educational subjects and Advanced Global Literacy Educational subjects offered by other graduates schools (or other institutions) in Osaka university, the subjects approved by Department of Information Systems Engineering can be included for Requirements for Completion up to 2 credits for Advanced Liberal Arts Educational subjects and 1 credit for Advanced Global Literacy Educational subjects. For details, please refer the attached "「高度教養教育科目リスト(情報システム工学専攻)」「高度国際性涵養教育科目リスト(情報システム工学専攻)」.