

| (理工情報生命学術院 生命地球科学研究群 博士前期課程)<br>Degree Programs in Life and Earth Sciences, Graduate School of Science and Technology (Master's Program) |                           |  |  | 汎用コンピテンシス<br>Generic Competences |                             |                             |                    |  | 専門コンピテンシス<br>Specific Competences                 |   |  |   |   |   |   |   |  |
|--|---------------------------|--|--|----------------------------------|-----------------------------|-----------------------------|--------------------|--|---|---|--|---|---|---|---|---|--|
| 科目区分<br>Course Category  | 科目番号<br>Course Number     | 授業科目の名称<br>Course Name                         | 標準履修<br>年次<br>Standard<br>Registration<br>year                   | 単位数<br>Credits                   |                             |                             |                    | 1<br>知の<br>活用<br>力<br>Knowledge<br>application<br>competence | 2<br>マネジ<br>メント<br>能力<br>Management<br>competence | 3<br>コミュ<br>ニケー<br>ション<br>能力<br>Communication<br>competence | 4<br>チー<br>ムワ<br>ーク<br>力<br>Teamwork<br>competence | 5<br>国際<br>性<br>International<br>competence | 1<br>自然<br>科学<br>の<br>知識<br>Knowledge<br>in<br>natural<br>science | 2<br>生物<br>学<br>の<br>知識<br>Knowledge<br>in<br>biology | 3<br>生物<br>学<br>の<br>研<br>究<br>力<br>Research<br>ability<br>for<br>biology | 4<br>生物<br>学<br>の<br>探<br>求<br>力<br>Ability<br>to<br>explore<br>biology<br>research | 5<br>生物<br>学<br>の<br>発<br>信<br>力<br>Ability<br>to<br>disseminate<br>biolog<br>research |
|  |                           |  |  | 必修<br>Required                   | 選択<br>Core<br>Electiv<br>es | 自由<br>Free<br>Electiv<br>es | 講義<br>Lectur<br>es |  |   |   |  |   |   |   |   |   |  |
| <b>■生物学学位プログラム (M) Master's Program in Biology</b>   |                           |  |  |                                  |                             |                             |                    |  |   |   |  |   |   |   |   |   |  |
| 専門基礎科<br>目<br>Foundation<br>Subjects<br>for Major  | 0ANA001                   | 先端生物学セミナー                                      | 1  | 1                                |                             |                             |                    |  |   |   |  |   |   |   |   |   |  |
|  | 0ANA003                   | サイエンスプレゼンテーション                                 | 1  | 2                                |                             |                             |                    |  |   |   |  |   |   |   |   |   |  |
|  | 0ANA011                   | 生物学概論I   | 1-2  | 3                                |                             |                             |                    |  |   |   |  |   |   |   |   |   |  |
|  | 0ANA013                   | 生物学概論II  | 1-2  | 3                                |                             |                             |                    |  |   |   |  |   |   |   |   |   |  |
|  | 0ANA021                   | 大規模分子系統解析演習                                    | 1-2  | 1                                |                             |                             |                    |  |   |   |  |   |   |   |   |   |  |
|  | 0ANA023                   | 比較ゲノミクス解析演習                                    | 1-2  | 1                                |                             |                             |                    |  |   |   |  |   |   |   |   |   |  |
|  | 0ANA025                   | プロテオーム演習                                       | 1-2  | 1                                |                             |                             |                    |  |   |   |  |   |   |   |   |   |  |
|  | 0ANA027                   | バイオインフォマティクス演習                                 | 1-2  | 1                                |                             |                             |                    |  |   |   |  |   |   |   |   |   |  |
|  | 0ANA029                   | バイオイメージング演習                                    | 1-2  | 1                                |                             |                             |                    |  |   |   |  |   |   |   |   |   |  |
|  | 0ANA031                   | サイエンスメディアエーション実戦I(インターンシップ)                    | 1-2  | 1                                |                             |                             |                    |  |   |   |  |   |   |   |   |   |  |
|  | 0ANA032                   | サイエンスメディアエーション実戦II(インターンシップ)                   | 1-2  | 1                                |                             |                             |                    |  |   |   |  |   |   |   |   |   |  |
|  | 0ANA033                   | サイエンスメディアエーション実戦III(インターンシップ)                  | 1-2  | 1                                |                             |                             |                    |  |   |   |  |   |   |   |   |   |  |
|  | 0ANA034                   | サイエンスメディアエーション実戦IV(インターンシップ)                   | 1-2  | 1                                |                             |                             |                    |  |   |   |  |   |   |   |   |   |  |
|  | 0AH006                    | 多様な生物の世界                                       | Diversity of Organisms   | 1-2                              | 1                           |                             |                    |  |   |   |  |   |   |   |   |   |  |
|  | 0AH007                    | 生物の進化  | Evolution of Organisms   | 1-2                              | 1                           |                             |                    |  |   |   |  |   |   |   |   |   |  |
|  | 0AH008                    | 生命を司る分子メカニズム                                   | Molecular Mechanisms of Life                                     | 1-2                              | 1                           |                             |                    |  |   |   |  |   |   |   |   |   |  |
|  | 0AH009                    | 生命の基本単位  | Cells as a Unit of Life  | 1-2                              | 1                           |                             |                    |  |   |   |  |   |   |   |   |   |  |
|  | 0AN010                    | 動物の発生と分化                                       | Development and Differentiation of Animals                       | 1-2                              | 1                           |                             |                    |  |   |   |  |   |   |   |   |   |  |
|  | 0AN0103                   | 動物の反応と調節                                       | Physiology of Animals  | 1-2                              | 1                           |                             |                    |  |   |   |  |   |   |   |   |   |  |
|  | 0AN0105                   | 植物の発生と分化                                       | Development and Differentiation of Plants                        | 1-2                              | 1                           |                             |                    |  |   |   |  |   |   |   |   |   |  |
|  | 0AN0107                   | 植物の反応と調節                                       | Physiology of Plants   | 1-2                              | 1                           |                             |                    |  |   |   |  |   |   |   |   |   |  |
|  | 0AN0110                   | サイエンスコミュニケーション特講                               | Special Lecture on Science Communication                         | 1-2                              | 1                           |                             |                    |  |   |   |  |   |   |   |   |   |  |
|  | 0AN0205                   | サイエンスコミュニケーション概論                               | Science Communication in General                                 | 1-2                              | 1                           |                             |                    |  |   |   |  |   |   |   |   |   |  |
|  | 0AN0206                   | サイエンスコミュニケーション特論                               | Advanced Science Communication                                   | 1-2                              | 1                           |                             |                    |  |   |   |  |   |   |   |   |   |  |
|  | 0ANA041                   | マリン分子生命科学I                                     | Marine Molecular Biology I                                       | 1-2                              | 1                           |                             |                    |  |   |   |  |   |   |   |   |   |  |
|  | 0ANA042                   | マリン分子生命科学II                                    | Marine Molecular Biology II                                      | 1-2                              | 1                           |                             |                    |  |   |   |  |   |   |   |   |   |  |
|  | 0ANA043                   | マリン生態環境科学                                      | Marine Ecology and Environment                                   | 1-2                              | 1                           |                             |                    |  |   |   |  |   |   |   |   |   |  |
|  | 0ANA044                   | マリンバイオロジー特論                                    | Advanced Lecture on Marine Biology                               | 1-2                              | 2                           |                             |                    |  |   |   |  |   |   |   |   |   |  |
|  | 0ANE027                   | 菌類多様性野外実習                                      | Advanced Field Course in Fungal Biodiversity                     | 1-2                              | 1                           |                             |                    |  |   |   |  |   |   |   |   |   |  |
|  | 0ANA051                   | 海山生物学実習  | Advanced Field Course in Marine and Mountain Biology             | 1-2                              | 1                           |                             |                    |  |   |   |  |   |   |   |   |   |  |
|  | 0ANA053                   | モデル生物生態学実習                                     | Advanced Field Course in The Biology of Selected Model Organisms | 1-2                              | 1                           |                             |                    |  |   |   |  |   |   |   |   |   |  |
|  | 0ANE053                   | 山岳高原生態学実習                                      | Advanced Field Course in Mountain and Plateau Ecology            | 1-2                              | 1                           |                             |                    |  |   |   |  |   |   |   |   |   |  |
|  | 0ANE052                   | 山岳森林生態学実習                                      | Advanced Field Course in Mountain Forest Ecology                 | 1-2                              | 1                           |                             |                    |  |   |   |  |   |   |   |   |   |  |
|  | 0ANA055                   | 高層原生生物学実習                                      | Advanced Field Course in Highland Protistology                   | 1-2                              | 1                           |                             |                    |  |   |   |  |   |   |   |   |   |  |
|  | 0ANA057                   | 動物学野外実習  | Advanced Field Course in Terrestrial Zoology                     | 1-2                              | 1                           |                             |                    |  |   |   |  |   |   |   |   |   |  |
|  | 0ANE028                   | 節足動物学野外実習                                      | Advanced Field Course in Arthropod Biology                       | 1-2                              | 1                           |                             |                    |  |   |   |  |   |   |   |   |   |  |
|  | 0AH005                    | 生物学オムニバス特講                                     | Ombus Lecture in Biology   | 1-2                              | 1                           |                             |                    |  |   |   |  |   |   |   |   |   |  |
|  | 0ANA061                   | サイエンスコミュニケーション海外インターンシップ                       | Science Communication International Internship                   | 1-2                              | 1                           |                             |                    |  |   |   |  |   |   |   |   |   |  |
|  | 0ANA062                   | サイエンスコミュニケーション実習                               | Science Communication Field Placement                            | 1-2                              | 1                           |                             |                    |  |   |   |  |   |   |   |   |   |  |
|  | 0ANA063                   | サイエンスコミュニケーションプロジェクト                           | Science Communication Project                                    | 1-2                              | 1                           |                             |                    |  |   |   |  |   |   |   |   |   |  |
|  | 0ANA064                   | セルフラーニングアクティビティ1                               | Self Learning Activity 1   | 1-2                              | 1                           |                             |                    |  |   |   |  |   |   |   |   |   |  |
|  | 専門科目<br>Major<br>Subjects | 0ANA301  | 系統分類・進化セミナーIS  | 1                                | 2                           |                             |                    |  |   |   |  |   |   |   |   |   |  |
|  |                           | 0ANA302  | 系統分類・進化セミナーIF  | 1                                | 2                           |                             |                    |  |   |   |  |   |   |   |   |   |  |
|  |                           | 0ANA303  | 系統分類・進化セミナーIIS   | 2                                | 2                           |                             |                    |  |   |   |  |   |   |   |   |   |  |
|  |                           | 0ANA304  | 系統分類・進化セミナーIIF   | 2                                | 2                           |                             |                    |  |   |   |  |   |   |   |   |   |  |
| 0ANA311  |                           | 系統分類・進化研究法IS                                   | Methodology on Systematics and Evolutionary Biology IS           | 1                                | 3                           |                             |                    |  |   |   |  |   |   |   |   |   |  |
| 0ANA312  |                           | 系統分類・進化研究法IF                                   | Methodology on Systematics and Evolutionary Biology IF           | 1                                | 3                           |                             |                    |  |   |   |  |   |   |   |   |   |  |
| 0ANA313  |                           | 系統分類・進化研究法IIS                                  | Methodology on Systematics and Evolutionary Biology IIS          | 2                                | 3                           |                             |                    |  |   |   |  |   |   |   |   |   |  |
| 0ANA314  |                           | 系統分類・進化研究法IIF                                  | Methodology on Systematics and Evolutionary Biology IIF          | 2                                | 3                           |                             |                    |  |   |   |  |   |   |   |   |   |  |
| 0ANA321  |                           | 生態学セミナーIS                                      | Seminar on Ecology IS  | 1                                | 2                           |                             |                    |  |   |   |  |   |   |   |   |   |  |
| 0ANA322  |                           | 生態学セミナーIF                                      | Seminar on Ecology IF  | 1                                | 2                           |                             |                    |  |   |   |  |   |   |   |   |   |  |
| 0ANA323  |                           | 生態学セミナーIIS                                     | Seminar on Ecology IIS   | 2                                | 2                           |                             |                    |  |   |   |  |   |   |   |   |   |  |
| 0ANA324  |                           | 生態学セミナーIIF                                     | Seminar on Ecology IIF   | 2                                | 2                           |                             |                    |  |   |   |  |   |   |   |   |   |  |
| 0ANA331  |                           | 生態学研究法IS                                       | Methodology on Ecology IS  | 1                                | 3                           |                             |                    |  |   |   |  |   |   |   |   |   |  |
| 0ANA332  |                           | 生態学研究法IF                                       | Methodology on Ecology IF  | 1                                | 3                           |                             |                    |  |   |   |  |   |   |   |   |   |  |
| 0ANA333  |                           | 生態学研究法IIS                                      | Methodology on Ecology IIS                                       | 2                                | 3                           |                             |                    |  |   |   |  |   |   |   |   |   |  |
| 0ANA334  |                           | 生態学研究法IIF                                      | Methodology on Ecology IIF                                       | 2                                | 3                           |                             |                    |  |   |   |  |   |   |   |   |   |  |
| 0ANA341  |                           | 植物発生・生理学セミナーIS                                 | Seminar on Plant Physiology and Developmental Biology IS         | 1                                | 2                           |                             |                    |  |   |   |  |   |   |   |   |   |  |
| 0ANA342  |                           | 植物発生・生理学セミナーIF                                 | Seminar on Plant Physiology and Developmental Biology IF         | 1                                | 2                           |                             |                    |  |   |   |  |   |   |   |   |   |  |
| 0ANA343  |                           | 植物発生・生理学セミナーIIS                                | Seminar on Plant Physiology and Developmental Biology IIS        | 2                                | 2                           |                             |                    |  |   |   |  |   |   |   |   |   |  |
| 0ANA344  |                           | 植物発生・生理学セミナーIIF                                | Seminar on Plant Physiology and Developmental Biology IIF        | 2                                | 2                           |                             |                    |  |   |   |  |   |   |   |   |   |  |
| 0ANA351  |                           | 植物発生・生理学研究法IS                                  | Methodology on Plant Physiology and Developmental Biology IS     | 1                                | 3                           |                             |                    |  |   |   |  |   |   |   |   |   |  |
| 0ANA352  |                           | 植物発生・生理学研究法IF                                  | Methodology on Plant Physiology and Developmental Biology IF     | 1                                | 3                           |                             |                    |  |   |   |  |   |   |   |   |   |  |
| 0ANA353  |                           | 植物発生・生理学研究法IIS                                 | Methodology on Plant Physiology and Developmental Biology IIS    | 2                                | 3                           |                             |                    |  |   |   |  |   |   |   |   |   |  |
| 0ANA354  |                           | 植物発生・生理学研究法IIF                                 | Methodology on Plant Physiology and Developmental Biology IIF    | 2                                | 3                           |                             |                    |  |   |   |  |   |   |   |   |   |  |
| 0ANA361  |                           | 動物発生・生理学セミナーIS                                 | Seminar on Animal Physiology and Developmental Biology IS        | 1                                | 2                           |                             |                    |  |   |   |  |   |   |   |   |   |  |
| 0ANA362  |                           | 動物発生・生理学セミナーIF                                 | Seminar on Animal Physiology and Developmental Biology IF        | 1                                | 2                           |                             |                    |  |   |   |  |   |   |   |   |   |  |
| 0ANA363  |                           | 動物発生・生理学セミナーIIS                                | Seminar on Animal Physiology and Developmental Biology IIS       | 2                                | 2                           |                             |                    |  |   |   |  |   |   |   |   |   |  |
| 0ANA364  |                           | 動物発生・生理学セミナーIIF                                | Seminar on Animal Physiology and Developmental Biology IIF       | 2                                | 2                           |                             |                    |  |   |   |  |   |   |   |   |   |  |
| 0ANA371  |                           | 動物発生・生理学研究法IS                                  | Methodology on Animal Physiology and Developmental Biology IS    | 1                                | 3                           |                             |                    |  |   |   |  |   |   |   |   |   |  |
| 0ANA372  |                           | 動物発生・生理学研究法IF                                  | Methodology on Animal Physiology and Developmental Biology IF    | 1                                | 3                           |                             |                    |  |   |   |  |   |   |   |   |   |  |
| 0ANA373  |                           | 動物発生・生理学研究法IIS                                 | Methodology on Animal Physiology and Developmental Biology IIS   | 2                                | 3                           |                             |                    |  |   |   |  |   |   |   |   |   |  |
| 0ANA374  |                           | 動物発生・生理学研究法IIF                                 | Methodology on Animal Physiology and Developmental Biology IIF   | 2                                | 3                           |                             |                    |  |   |   |  |   |   |   |   |   |  |
| 0ANA381  |                           | 分子細胞生物学セミナーIS                                  | Seminar on Molecular and Cellular Biology IS                     | 1                                | 2                           |                             |                    |  |   |   |  |   |   |   |   |   |  |
| 0ANA382  |                           | 分子細胞生物学セミナーIF                                  | Seminar on Molecular and Cellular Biology IF                     | 1                                | 2                           |                             |                    |  |   |   |  |   |   |   |   |   |  |
| 0ANA383  |                           | 分子細胞生物学セミナーIIS                                 | Seminar on Molecular and Cellular Biology IIS                    | 2                                | 2                           |                             |                    |  |   |   |  |   |   |   |   |   |  |
| 0ANA384  |                           | 分子細胞生物学セミナーIIF                                 | Seminar on Molecular and Cellular Biology IIF                    | 2                                | 2                           |                             |                    |  |   |   |  |   |   |   |   |   |  |
| 0ANA391  |                           | 分子細胞生物学研究法IS                                   | Methodology on Molecular and Cellular Biology IS                 | 1                                | 3                           |                             |                    |  |   |   |  |   |   |   |   |   |  |
| 0ANA392  |                           | 分子細胞生物学研究法IF                                   | Methodology on Molecular and Cellular Biology IF                 | 1                                | 3                           |                             |                    |  |   |   |  |   |   |   |   |   |  |
| 0ANA393  |                           | 分子細胞生物学研究法IIS                                  | Methodology on Molecular and Cellular Biology IIS                | 2                                | 3                           |                             |                    |  |   |   |  |   |   |   |   |   |  |
| 0ANA394  |                           | 分子細胞生物学研究法IIF                                  | Methodology on Molecular and Cellular Biology IIF                | 2                                | 3                           |                             |                    |  |   |   |  |   |   |   |   |   |  |
| 0ANA401  |                           | ゲノム情報学セミナーIS                                   | Seminar on Genomics and Bioinformatics IS                        | 1                                | 2                           |                             |                    |  |   |   |  |   |   |   |   |   |  |
| 0ANA402  |                           | ゲノム情報学セミナーIF                                   | Seminar on Genomics and Bioinformatics IF                        | 1                                | 2                           |                             |                    |  |   |   |  |   |   |   |   |   |  |
| 0ANA403  |                           | ゲノム情報学セミナーIIS                                  | Seminar on Genomics and Bioinformatics IIS                       | 2                                | 2                           |                             |                    |  |   |   |  |   |   |   |   |   |  |
| 0ANA404  |                           | ゲノム情報学セミナーIIF                                  | Seminar on Genomics and Bioinformatics IIF                       | 2                                | 2                           |                             |                    |  |   |   |  |   |   |   |   |   |  |
| 0ANA411  |                           | ゲノム情報学研究法IS                                    | Methodology on Genomics and Bioinformatics IS                    | 1                                | 3                           |                             |                    |  |   |   |  |   |   |   |   |   |  |
| 0ANA412  | ゲノム情報学研究法IF               | Methodology on Genomics and Bioinformatics IF  | 1  | 3                                |                             |                             |                    |  |   |   |  |   |   |   |   |   |  |
| 0ANA413  | ゲノム情報学研究法IIS              | Methodology on Genomics and Bioinformatics IIS | 2  | 3                                |                             |                             |                    |  |   |   |  |   |   |   |   |   |  |
| 0ANA414  | ゲノム情報学研究法IIF              | Methodology on Genomics and Bioinformatics IIF | 2  | 3                                |                             |                             |                    |  |   |   |  |   |   |   |   |   |  |
| 0ANA421  | 先端細胞生物学研究法IS              | Methodology on Advanced Cellular Biology IS    | 1  | 3                                |                             |                             |                    |  |   |   |  |   |   |   |   |   |  |
| 0ANA422  | 先端細胞生物学研究法IF              | Methodology on Advanced Cellular Biology IF    | 1  | 3                                |                             |                             |                    |  |   |   |  |   |   |   |   |   |  |
| 0ANA423  | 先端細胞生物学研究法IIS             | Methodology on Advanced Cellular Biology IIS   | 2  | 3                                |                             |                             |                    |  |   |   |  |   |   |   |   |   |  |
| 0ANA424  | 先端細胞生物学研究法IIF             | Methodology on Advanced Cellular Biology IIF   | 2  | 3                                |                             |                             |                    |  |   |   |  |   |   |   |   |   |  |
| 0ANA431  | 先端分子生物学研究法IS              | Methodology on Advanced Molecular Biology IS   | 1  | 3                                |                             |                             |                    |  |   |   |  |   |   |   |   |   |  |
| 0ANA432  | 先端分子生物学研究法IF              | Methodology on Advanced Molecular Biology IF   | 1  | 3                                |                             |                             |                    |  |   |   |  |   |   |   |   |   |  |
| 0ANA433  | 先端分子生物学研究法IIS             | Methodology on Advanced Molecular Biology IIS  | 2  | 3                                |                             |                             |                    |  |   |   |  |   |   |   |   |   |  |
| 0ANA434  | 先端分子生物学研究法IIF             | Methodology on Advanced Molecular Biology IIF  | 2  | 3                                |                             |                             |                    |  |   |   |  |   |   |   |   |   |  |

※「必修」は学位プログラムとしての必修を表す。「Required」 indicates required for each degree program.