

|                                                                                                                                                                                                                                                                                                     |                                                                                                                                                                                                                                                                                                                                                                |      |                                                                                                                                                               |  |                                                            |                                                                                                          |                                                      |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------|---------------------------------------------------------------------------------------------------------------------------------------------------------------|--|------------------------------------------------------------|----------------------------------------------------------------------------------------------------------|------------------------------------------------------|
| 東京工業高等専門学校                                                                                                                                                                                                                                                                                          |                                                                                                                                                                                                                                                                                                                                                                | 開講年度 | 平成30年度 (2018年度)                                                                                                                                               |  | 授業科目                                                       | Science English II                                                                                       |                                                      |
| 科目基礎情報                                                                                                                                                                                                                                                                                              |                                                                                                                                                                                                                                                                                                                                                                |      |                                                                                                                                                               |  |                                                            |                                                                                                          |                                                      |
| 科目番号                                                                                                                                                                                                                                                                                                | 0107                                                                                                                                                                                                                                                                                                                                                           |      | 科目区分                                                                                                                                                          |  | 一般 / 必修                                                    |                                                                                                          |                                                      |
| 授業形態                                                                                                                                                                                                                                                                                                | 講義                                                                                                                                                                                                                                                                                                                                                             |      | 単位の種別と単位数                                                                                                                                                     |  | 履修単位: 1                                                    |                                                                                                          |                                                      |
| 開設学科                                                                                                                                                                                                                                                                                                | 情報工学科                                                                                                                                                                                                                                                                                                                                                          |      | 対象学年                                                                                                                                                          |  | 3                                                          |                                                                                                          |                                                      |
| 開設期                                                                                                                                                                                                                                                                                                 | 前期                                                                                                                                                                                                                                                                                                                                                             |      | 週時間数                                                                                                                                                          |  | 2                                                          |                                                                                                          |                                                      |
| 教科書/教材                                                                                                                                                                                                                                                                                              | Exploring Science: Working Scientifically Student Book Year 9                                                                                                                                                                                                                                                                                                  |      |                                                                                                                                                               |  |                                                            |                                                                                                          |                                                      |
| 担当教員                                                                                                                                                                                                                                                                                                | ゲイツ ジョン                                                                                                                                                                                                                                                                                                                                                        |      |                                                                                                                                                               |  |                                                            |                                                                                                          |                                                      |
| 到達目標                                                                                                                                                                                                                                                                                                |                                                                                                                                                                                                                                                                                                                                                                |      |                                                                                                                                                               |  |                                                            |                                                                                                          |                                                      |
| 【目的】 The purpose of this course is to provide the students with a strong foundation for reading scientific articles and giving presentations in English.<br>1. Learn important English vocabulary for science<br>2. Improve English pronunciation<br>3. Gain experience in making an English Speech |                                                                                                                                                                                                                                                                                                                                                                |      |                                                                                                                                                               |  |                                                            |                                                                                                          |                                                      |
| ルーブリック                                                                                                                                                                                                                                                                                              |                                                                                                                                                                                                                                                                                                                                                                |      |                                                                                                                                                               |  |                                                            |                                                                                                          |                                                      |
|                                                                                                                                                                                                                                                                                                     | 理想的な到達レベルの目安                                                                                                                                                                                                                                                                                                                                                   |      | 標準的な到達レベルの目安                                                                                                                                                  |  | 最低限の到達レベルの目安 (可)                                           |                                                                                                          | 未到達レベルの目安                                            |
| 評価項目1 Scientific Vocabulary                                                                                                                                                                                                                                                                         | Remember more than 80% of the scientific vocabulary.                                                                                                                                                                                                                                                                                                           |      | Remember between 70% and 80% of the scientific vocabulary.                                                                                                    |  | Remember between 60% and 70% of the scientific vocabulary. |                                                                                                          | Remember less than 60% of the scientific vocabulary. |
| 評価項目2 Scientific Phrases                                                                                                                                                                                                                                                                            | Remember more than 80% of the scientific phrases.                                                                                                                                                                                                                                                                                                              |      | Remember between 70% and 80% of the scientific phrases.                                                                                                       |  | Remember between 60% and 70% of the scientific phrases.    |                                                                                                          | Remember less than 60% of the scientific phrases.    |
| 評価項目3 Speech Recitation                                                                                                                                                                                                                                                                             | Remember more than 80% of the English recitation.                                                                                                                                                                                                                                                                                                              |      | Remember between 70% and 80% of the English recitation.                                                                                                       |  | Remember between 60% and 70% of the English recitation.    |                                                                                                          | Remember less than 60% of the English recitation.    |
| 学科の到達目標項目との関係                                                                                                                                                                                                                                                                                       |                                                                                                                                                                                                                                                                                                                                                                |      |                                                                                                                                                               |  |                                                            |                                                                                                          |                                                      |
| 学習・教育目標 B3                                                                                                                                                                                                                                                                                          |                                                                                                                                                                                                                                                                                                                                                                |      |                                                                                                                                                               |  |                                                            |                                                                                                          |                                                      |
| 教育方法等                                                                                                                                                                                                                                                                                               |                                                                                                                                                                                                                                                                                                                                                                |      |                                                                                                                                                               |  |                                                            |                                                                                                          |                                                      |
| 概要                                                                                                                                                                                                                                                                                                  | The main focus is on general scientific vocabulary and pronunciation. In total the students will have to memorize 350 scientific words and 40 scientific phrases. Also, the students will have to recite a passage from the textbook of at least 200 words in length. Correct pronunciation will be emphasized.                                                |      |                                                                                                                                                               |  |                                                            |                                                                                                          |                                                      |
| 授業の進め方・方法                                                                                                                                                                                                                                                                                           | Every class there will be a short test to determine if the students remember the important vocabulary and phrases. These short tests will be cumulative in that each test will have some content from all the previous lessons. Each week will introduce new vocabulary and phrases. Also, each week there will be time to prepare for the English recitation. |      |                                                                                                                                                               |  |                                                            |                                                                                                          |                                                      |
| 注意点                                                                                                                                                                                                                                                                                                 | オフィスアワー： 12：10～12：40 ゲイツ研究室（1棟3階）<br>本科目の成績は定期試験の成績のみならず、予習・復習の自学自習の実施状況も考慮して判断される。したがって自学自習の習慣を身に着けることが必要である。                                                                                                                                                                                                                                                 |      |                                                                                                                                                               |  |                                                            |                                                                                                          |                                                      |
| 授業計画                                                                                                                                                                                                                                                                                                |                                                                                                                                                                                                                                                                                                                                                                |      |                                                                                                                                                               |  |                                                            |                                                                                                          |                                                      |
|                                                                                                                                                                                                                                                                                                     |                                                                                                                                                                                                                                                                                                                                                                | 週    | 授業内容                                                                                                                                                          |  |                                                            | 週ごとの到達目標                                                                                                 |                                                      |
| 前期                                                                                                                                                                                                                                                                                                  | 1stQ                                                                                                                                                                                                                                                                                                                                                           | 1週   | Class Introduction<br>Speech Explanation<br>Vocabulary Lesson 1<br>Pronunciation Lesson 1<br>Speech Search 1<br>Scientific Phrases Lesson 1                   |  |                                                            | Pronunciation of “L”<br>Speech practice                                                                  |                                                      |
|                                                                                                                                                                                                                                                                                                     |                                                                                                                                                                                                                                                                                                                                                                | 2週   | Short test 1<br>Vocabulary Lesson 2<br>Pronunciation Lesson 2<br>Reading 1 “Easy breathing / Smoke signals”<br>Speech Search 2<br>Scientific Phrases Lesson 2 |  |                                                            | Pronunciation of “R”<br>Vocabulary related to human biology<br>Speech practice                           |                                                      |
|                                                                                                                                                                                                                                                                                                     |                                                                                                                                                                                                                                                                                                                                                                | 3週   | Short test 2<br>Vocabulary Lesson 3<br>Pronunciation Lesson 3<br>Reading 2 “Sun, soil and air”<br>Speech Lottery<br>Scientific Phrases Lesson 3               |  |                                                            | Pronunciation of “V”<br>Vocabulary related to plant biology<br>Speech practice                           |                                                      |
|                                                                                                                                                                                                                                                                                                     |                                                                                                                                                                                                                                                                                                                                                                | 4週   | Short test 3<br>Vocabulary Lesson 4<br>Pronunciation Lesson 4<br>Reading 3 “Animal detectives”<br>Speech Practice 1<br>Scientific Phrases Lesson 4            |  |                                                            | Pronunciation of “Th”<br>Vocabulary related to animals<br>Speech practice                                |                                                      |
|                                                                                                                                                                                                                                                                                                     |                                                                                                                                                                                                                                                                                                                                                                | 5週   | Short test 4<br>Vocabulary Lesson 5<br>Pronunciation Lesson 5<br>Reading 4 “A roof over our heads”<br>Speech Practice 2<br>Scientific Phrases Lesson 5        |  |                                                            | Pronunciation of “L” Part 2<br>Vocabulary related to chemistry<br>How to read a title<br>Speech practice |                                                      |
|                                                                                                                                                                                                                                                                                                     |                                                                                                                                                                                                                                                                                                                                                                | 6週   | Short test 5<br>Vocabulary Lesson 6<br>Pronunciation Lesson 6<br>Reading 5 “Stone wear”<br>Speech Practice 3<br>Scientific Phrases Lesson 6                   |  |                                                            | Pronunciation of “V” Part 2<br>Vocabulary related to ecology<br>How to read numbers<br>Speech practice   |                                                      |

|  |      |     |                                                                                                                                                            |                                                                                                                          |
|--|------|-----|------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------|
|  |      | 7週  | Short test 6<br>Vocabulary Lesson 7<br>Pronunciation Lesson 7<br>Reading 6 "The global warming debate"<br>Speech Practice 4<br>Scientific Phrases Lesson 7 | Pronunciation of "V" Part 2<br>Vocabulary related to ecology<br>How to read numbers<br>Speech practice                   |
|  |      | 8週  | Midterm Exam                                                                                                                                               | Review of Scientific Phrases Lessons 1 to 5 and<br>Vocabulary Lessons 1 to 5                                             |
|  | 2ndQ | 9週  | Short test 7<br>Vocabulary Lesson 8<br>Pronunciation Lesson 8<br>Reading 7 "The generation game"<br>Speech Practice 5<br>Scientific Phrases Lesson 8       | Pronunciation of "Th"<br>Vocabulary related to electrical engineering<br>How to read units<br>Speech practice            |
|  |      | 10週 | Short test 8<br>Vocabulary Lesson 9<br>Pronunciation Lesson 9<br>Reading 8 "Using pressure"<br>Speech Practice 6<br>Scientific Phrases Lesson 9            | Pronunciation of "S" and "C"<br>Vocabulary related to mechanical engineering<br>How to read equations<br>Speech practice |
|  |      | 11週 | Short test 9<br>Vocabulary Lesson 10<br>Pronunciation Lesson 10<br>Reading 9 "Chemical reactions"<br>Speech Practice 7<br>Scientific Phrases Lesson 10     | Pronunciation of "T" and "D"<br>Vocabulary related to chemistry<br>How to read chemical formulas<br>Speech practice      |
|  |      | 12週 | Short test 10<br>Speech Practice 8                                                                                                                         |                                                                                                                          |
|  |      | 13週 | English Recitations                                                                                                                                        |                                                                                                                          |
|  |      | 14週 | English Recitations                                                                                                                                        |                                                                                                                          |
|  |      | 15週 | English Recitations<br>Final Exam Review                                                                                                                   |                                                                                                                          |
|  |      | 16週 | Final Exam                                                                                                                                                 | Review of Scientific Phrases Lessons 6 to 10 and<br>Vocabulary Lessons 6 to 10                                           |

#### モデルコアカリキュラムの学習内容と到達目標

| 分類    |         | 分野 | 学習内容           | 学習内容の到達目標                                                                                  | 到達レベル | 授業週 |
|-------|---------|----|----------------|--------------------------------------------------------------------------------------------|-------|-----|
| 基礎的能力 | 人文・社会科学 | 英語 | 英語運用の基礎となる知識   | 聞き手に伝わるよう、句・文における基本的なリズムやイントネーション、音のつながりに配慮して、音読あるいは発話できる。                                 | 3     |     |
|       |         |    |                | 明瞭で聞き手に伝わるような発話ができるよう、英語の発音・アクセントの規則を習得して適切に運用できる。                                         | 3     |     |
|       |         |    | 英語運用能力向上のための学習 | 関心のあるトピックや自分の専門分野のプレゼン等にもつながる平易な英語での口頭発表や、内容に関する簡単な質問や応答などのやりとりができる。                       | 3     |     |
|       |         |    |                | 関心のあるトピックや自分の専門分野に関する論文やマニュアルなどの概要を把握し、必要な情報を読み取ることができる。                                   | 3     |     |
|       |         |    |                | 英文資料を、自分の専門分野に関する論文の英文アブストラクトや口頭発表用の資料等の作成にもつながるよう、英文テクニカルライティングにおける基礎的な語彙や表現を使って書くことができる。 | 3     |     |
|       |         |    |                | 実際の場面や目的に応じて、効果的なコミュニケーション方略(ジェスチャー、アイコンタクト、代用表現、聞き返しなど)を適切に用いることができる。                     | 3     |     |

#### 評価割合

|         | 試験 | 発表 | 相互評価 | 態度 | ポートフォリオ | その他(Weekly Short tests) | 合計  |
|---------|----|----|------|----|---------|-------------------------|-----|
| 総合評価割合  | 50 | 25 | 0    | 0  | 0       | 25                      | 100 |
| 基礎的能力   | 50 | 25 | 0    | 0  | 0       | 25                      | 100 |
| 専門的能力   | 0  | 0  | 0    | 0  | 0       | 0                       | 0   |
| 分野横断的能力 | 0  | 0  | 0    | 0  | 0       | 0                       | 0   |