Subjects Outline

English 109	This course will focus on providing students with the skills needed to give their opinions, participate in presentations and discussions, and generally become active speakers. Students use Ted Talks as the foundations of their discussion topics, and will present both as a group and by themselves. During the course students will build their presentation and discussion skills, become confident speakers, and active listeners. The course aims to provide students with skills that they can use in other presentations while at university, and also in the workplace.
English 110	This course will use Ted Talks as the basis of providing students with academic writing skills. This course will develop the writing skills of students through writing several paragraphs. Students will learn how to write using various styles such as compare and cotrast, cause and effect, and problem solution. Students will also learn how to criticially peer review the writing of other students, and give written feedback on their work. The students gain skills that will be necessary for further English language courses.
Professional Communication 301	This course teaches students to communicate effectively with a variety of audiences, professional and other. The course will develop both writing and communication skills simultaneously. In this course students will undertake a variety of projects including writing curriculum vitae, cover letter, proposals, instructions, and other documents. In addition to this, students will develop their oral presentation skills, learn how to make effective visual content for a presentation, and gain experience with a variety of presentation tools. All aspects of this course aim to simulate what students will need in their future working environment.
Professional Communication 303	This course will teach communication skills critical for international work in the world. In this course students will develop both writing and communication skills simultaneously. Students will undertake such subjects as negotiation skills, conflict resolution, problem solving, and leadership from both a practical and theoretical viewpoint. All issues investigated in this course will be based on real life case studies and examples.
Academic Literacy 302	This course will be a basic introduction to academic essay writing. Students will learn how to write an effective five paragraph essay that will develop the students academic writing ability. Students will use a variety of online and peer review activities to assist them with this goal. Students will become familiar with how to give their opinion in relation to the writing of other students and learn how to effectively use feedback from students in their own writing.
Academic Literacy 304	This course is designed to develop the English academic writing skills of students looking towards publishing academic journal papers. Students in this class will need to read a variety of English academic journal papers related to their area of research. Parallel to this, students will learn the process of writing an academic paper, and how to conduct a small survey based research project. By the conclusion of the course students will have composed a mock journal paper. Students must be prepared to spend a large proportion of time outside of class reading journal papers and composing their paper. Peer review is a large component of the participation grade of this course. Students must be comfortable giving feedback to and receiving it from other students in the class.
Physics for Computer Science	This theoretical course surveys selected topics in mechanics, thermodynamics, fluids, waves, electricity, magnetism, optics, and modern physics, with emphasis on developing practical problem-solving skills. The course is to demonstrate the role of physics methods in modern science and engineering, as well as to show typical applications of physics methods in computer science.
Physics for Computer Science – Exercises	This course is to demonstrate typical applications of computational methods to study physical body motion, chaotic oscillations, random walk and diffusion phenomena, and sound and light propagation. Students are subjected to a range of practical examples of real-world problems, which are analyzed and solved, using basic physics methods.
Systems Biology	Systems studied in this course are groups of biological tissues, cells, and substances that work together to perform functions for the sustenance, survival, and reproduction of living organisms. A review of basic biological systems in various organisms forms the foundation for the course. Students gain an overview of natural selection, genetics, metabolisms, nervous systems, social interaction, and ecosystems. The focus of the class is on models of these biological systems for engineering applications.
Systems Biology – Exercises	Students in this course build software-based models of biological functions. Students will learn models that imitate or simulate processes in systems biology, including neural networks, genetic algorithms, and anatomical visualization of organisms. The emphasis is on learning how these models form the basis for innovation and simulation, as well as for education and training. Students will learn the differences between the models as well as their use for specific applications.
Computing Mathematics	This course covers the fundamentals of binary numbers, their operations and implementations as well as introducing concepts for computer codes and algorithms. Binary integers and their conversions are introduced from decimal numbers and the concepts of positional number representation. The study of codes includes both algorithmic and table-based coding systems. Basic operations on binary numbers and arithmetic operations in processors are covered, as well as the major concepts and methods of error detection and correction. The course covers bitwise and logical operations as part of the fundamentals of logic, truth tables, and propositional calculus. Algorithms are introduced both as mathematical constructs and through their representations in pseudocode and flowcharts.
Mathematical Foundations of Computer Science	This course covers the discrete mathematics necessary for understanding and analyzing computation on an abstract level. Set theory and relations introduces these concepts both through elementary number sets and through simple finite sets. Representations and operations with vectors and matrices are covered with practical examples and through practice. Graph theory covers directed and undirected graphs, including trees. Students learn graph properties, paths, traversals, and searches through practice. Languages, grammars, and the finite state machines used to describe them also give the students a background in the abstract concepts of computation as well as practical applications such as regular grammars and regular expressions.
Introduction to Differential Equations	The purpose of this course is twofold: 1) To introduce and discuss the topics related to ordinary differential equations, and 2) To show how to solve certain types of real world problems by using differential equations. It covers concepts of first- and higher-order differential equations, and methods (both analytical and numerical) for solving the equations. Discussed applications include computing trajectories, population growth and decay, Newton's law of cooling, resonance, and the deflection of a beam. Typical usage of differential equations in ICT is overviewed and illustrated with examples.
Experimentation 1	This practical course provides an introduction to the computer hardware skills needed to meet the requirement for entry-level ICT specialists. It covers the fundamentals of computer hardware technology. Students will be taught to describe internal components of computer systems (PC as well as various portable gadgets and supporting devices), assemble a computer system, install software, and troubleshoot with system tools and diagnostic software. Students will consequently apply their knowledge and skills in a project by assembling and configuring a computer system for a given scenario.
Experimentation 2	This course provides a comprehensive overview of the main experimental approaches with which entry-level ICT specialists should be familiar when dealing with human data (personal, social, etc.). Students will undertake a series of lectures and workshops designed to provide them with the knowledge and skills necessary to design and conduct data collection experiments in an ethically sensitive and scientifically rigorous manner. Students will consequently apply their knowledge and skills by designing and completing a human data-gathering research project.
Statistical Analysis, Simulation, and Modeling 1	This course introduces basics concepts of Probability Theory and Mathematical Statistics, and illustrates them with some typical ICT problems. The notions of a random experiment and the statistical stability are used to define an algebra of events that is, in turn, used to define the fundamental concepts of probability theory. Random variables and basic descriptive statistics are discussed. Important continuous and discrete univariate distributions are illustrated with real-world examples. Asymptotic theory and statistical decision theory are surveyed. The course concludes with a review of unbiased parameter estimation methods and their practical applications.
Statistical Analysis, Simulation, and Modeling 2	This course begins with a discussion of distributions of functions of random variables, systems of distributions, and then overviews the concept of multivariate distributions. The Monte-Carlo simulation method is introduced and illustrated with application examples from science and engineering. The model selection problem is formulated. Model selection criteria and various regression models are discussed. The Bootstrap approach is introduced, and used to select and validate statistical models.

Subjects Outline

Applied Informatics 1	This course aims to incorporate and combine design, technology, and computer science in the context of engineering information management. The course is about the actual use of information systems as solutions in contemporary engineering and business environments. A number of topics from e-business and e-manufacturing from across the whole engineering field are introduced and illustrated with practical examples of relevant standards, models, mathematical methods, designs, and systems.
Applied Informatics 2	This course aims to incorporate and combine design, technology, and computer science in the context of information management for the needs of government and society. The course is about the actual use of information systems as solutions to optimize public work and social governance and functioning in general. A number of topics from e-government, e-democracy, e-health, e-learning, and other related fields are introduced and illustrated with practical examples of relevant standards, models, mathematical methods, designs, and systems.
論理回路/Boolean Algebra and Logic Design	論理回路はデジタル回路の解析や設計を目的とし、これをデバイステクノロジに依存しないようにモデル化したものであり、情報科学、計算機工学の基礎を与える。本科目では、論理関数とその表現、組合せ論理回路および順序回路の設計手法、演算回路について学び、計算機の動作原理や構成法を理解できるようになることを目的とする。
計算機構成論/Computer Architecture	計算機構成論は、コンピュータのハードウェアが、どのように動作するかの基本的な概念を扱う講義科目である。本科目では、コンピュータシステムの構成要素、命令セット・アーキテクチャ、コンピュータ内での演算の実行方法などを中心に、ハードウェアとソフトウェアの関係、プログラミング言語により記述されたプログラムの実行方法などを講義する。
コンピュータネットワーク/Computer Networks	コンピュータネットワークは、複数のコンピュータを接続し、通信、データ蓄積、演算などの機能を提供する情報化社会の根幹となる通信基盤である。本科目では、ネットワークの階層化の概念について概説し、OSI 参照モデルの物理層、データリンク層、ネットワーク層、トランスポート層それぞれにおける基本的な技術と考え方を講義する。
ソフトウェア工学/Software Engineering	ソフトウェア工学とは、高品質・大規模なソフトウェアを、限られた時間内に一定の費用で開発・保守するための技術である。本科目では、ソフトウェアの要求分析、設計、プログラミング、テスト、保守というソフトウェア開発ライフサイクルにおけるさまざまな考え方や技法について、新しい技術動向を含めて解説する。
デジタル信号処理/Digital Signal Processing	音や画像、生体情報など、自然に存在する情報は連続的なアナログ信号である。一方、コンピューターで処理できる情報は0と1で表現されたディジタル形式であり、近年では信号のほとんどはディジタルで記録され、伝達され、加工される。本科目では、このような信号処理技術の基礎を学ぶ事を目的とする。具体的には、アナログ信号の表現、サンプリングによるディジタル信号への変換、周波数の概念、ディジタルフィルタなどの項目を修得する。
オペレーティングシステム/Operating Systems	OSは計算機ハードウェアを抽象化・高機能化し、プログラムやユーザが容易に計算機ハードウェアを利用可能な環境を実現する高度なソフトウェアである。最初のOSが誕生してから現在に至るまで、OSにおける基本的な概念は共通しており、これからもそれらを基礎として発展して行くと思われる。本科目では、このようなOSにおける基本的な概念や技法について理解する。
データベース/Databases	データベースは、大規模なデータをコンピュータで効率的に管理し共有するための仕組みであり、情報社会を支える重要な基盤技術の一つとなっている。本科目では、データベースの基本概念から実践的な応用技術までを学ぶ。具体的には、データベースの目的と役割、データベース言語SQL、データモデル、データベースの設計・管理手法、障害復旧、同時実行制御などの技術を学ぶ。
ネットワークセキュリティ/Computer Security	セキュリティは、現在のコンピュータネットワークやコンピュータシステムでは欠かせない重要分野である。本科目では、それらを安全かつ安定的に構築し運用しつつ、通信の秘密やプライバシーを確保するために必要な技術について体系的に学ぶ。具体的には、認証、暗号化など通信経路の安全性確保に関する技術や、ファイアウォール、IDSなどの防御技術について習得する。
コンピュータグラフィックス/Computer Graphics	コンピュータグラフィックスは、画像・映像製作の分野はもとより、医療、科学等の分野でのデータ可視化においても重要な基盤技術である。本科目では、コンピュータグラフィックスを構成する2次曲面やパラメトリック曲面についても学ぶ。
人工知能/Artificial Intelligence	人工知能は人間の知能の一部を計算機で構成することを目的とした計算機科学の重要な分野であり、種々の知的情報処理システム、知能ロボット等を実現するための基盤を与える。本科目では、人工知能の分野を概観しつつ、経路探索、機械学習、言語と論理などといった種々の方法論に関する導入と基礎理論の学習を行う。
Introduction to Information Systems Engineering	This course serves as an introduction to and overview of the discipline, including topics related to career planning, professionalism and communication, teamwork, and industry. It also offers typical solutions for course selection, coordination, and planning for students entering the Information Systems Engineering discipline.
Professional Ethics	This course cultivates ethical perspective necessary to IT engineers by understanding the importance of problems in information ethics such as intellectual property rights, personal information protection and information security, and recognizing the significance of thinking such problems.
Information Science in Action	This course introduces the fundamental concepts of computer science through hands-on activities conducted using English as the language of communication. Students learn the structure and function of the parts of the computer by building and programming programmable circuits before moving to general-purpose programming of specific structures and algorithms. Students will complete these activities and exercises using software documentation techniques, where the emphasis is communication in an international software engineering environment.
Presentation Plus 401	情報科学分野における専門的・学術的な場において、自信をもって自らの考え・意見の詳細を説明すると同時に、質疑応答を通して自らの主張を聴衆に納得させるために必要とされる英語運用能力を習得することを目的に、プロジェクトをベースとしたグループおよび個人での発表を行う。
Writing for Publication 402	各自の研究プロジェクトに基づき、情報科学分野における国際的な学術誌での採択を目指した英語論文執筆の訓練を行う。IMRADなど論文の全体構造と各パートで必要となる特徴的な英語表現を理解・使用できる高度な英語運用能力を習得する。同時に、構想から初稿執筆、リビジョン、査読者からのコメントへの対応といった論文執筆の各段階で求められる技術に習熟する。
プログラミング演習1/Programming Practice 1	プログラミング技術は、コンピュータを用いて種々の問題を解いたり、革新的なサービスを実現したりするために、基礎的でありつつも必須の技術である。本科目では、逐次・選択・繰返しのようなプログラムの基本制御構造、変数・配列・構造体などデータ格納方式、演算などのデータ処理方式、手続き・関数・サブルーチンによる抽象化手法、値渡しや参照渡しのようなデータ授受手法に挙げられるプログラミングにおける標準的な学習項目について演習を通じて修得する。
プログラミング演習2/Programming Practice 2	プログラミングにおいては、目的を達成するためにどのような手順で処理をするかを定めるアルゴリズムと、処理に適したデータの並びを定めるデータ構造が重要である。本科目では、科目「データ構造とアルゴリズム」の講義に対応させながら、リスト・スタック・キュー・グラフなどの典型的なデータ構造について実現法や操作法を修得する。また、ソートや探索などの広く用いられているアルゴリズムについてもその実現法を修得する。
卒業研究1/Graduation Research 1	卒業研究は、具体的な研究課題に対して問題を解決する手法を発見し、それを工学的に実現する能力、さらに得られた成果をわかりやすく発表するプレゼンテー ション能力を身に付けることを目的とする。「卒業研究1」では、配属された研究室の研究関連分野の従来研究や研究動向を把握し、的確な研究テーマを設定すると 共に、研究の目標を解決するための適切な手段を選択する能力を修得する。
卒業研究2/Graduation Research 2	卒業研究は、具体的な研究課題に対して問題を解決する手法を発見し、それを工学的に実現する能力、さらに得られた成果をわかりやすく発表するプレゼンテー ション能力を身に付けることを目的とする。「卒業研究2」では、「卒業研究1」で設定した研究の最終的な目標を実現するために、解決すべき問題を個別の問題にブ レークダウンすると共に、それらの個別の問題を解決するための的確な手法を選択し、実行する能力を修得する。
卒業研究3/Graduation Research 3	卒業研究は、具体的な研究課題に対して問題を解決する手法を発見し、それを工学的に実現する能力、さらに得られた成果をわかりやすく発表するプレゼンテー ション能力を身に付けることを目的とする。「卒業研究3」では、「卒業研究1」で設定した研究の最終的な目標を実現するために、具体的な問題の解決を実践する。さ らに、結果を自分以外の人に分かりやすく説明するために、研究の結果を整理して論文にまとめる。
プログラミング言語/Programming Language	プログラミング技術は、コンピュータを用いて種々の問題を解いたり、革新的なサービスを実現したりするために、基礎的でありつつも必須の技術である。本科目では、逐次・選択・繰返しのようなプログラムの基本制御構造、変数・配列・構造体などデータ格納方式、演算などのデータ処理方式、手続き・関数・サブルーチンによる抽象化手法、値渡しや参照渡しのようなデータ授受手法に挙げられるプログラミングにおける標準的な学習項目について、具体的なプログラミング言語における表現法や作法を学ぶ。
データ構造とアルゴリズム/Data Structures and Algorithms	プログラミングにおいては、目的を達成するためにどのような手順で処理をするかを定めるアルゴリズムと、処理に適したデータの並びを定めるデータ構造が重要である。本科目では、リスト・スタック・キュー・グラフなどの典型的なデータ構造を学ぶ。また、再帰法、分割統治法、動的計画法、2分探索など、ソートや探索などの広く用いられているアルゴリズムについて学ぶ。さらに、アルゴリズムの性能評価のための計算量についても学ぶ。
Imperative Programming	This course introduces algorithms and data structures both theoretically and practically. On the practical side students will study their implementation using the C programming language. Students will learn the complete C language as described in the 1999 ISO C Language Standard. While not the most recent standard, this is the most widely-used version of the language and represents the best compromise between simplicity and industry practice.
PBL: Problem Analysis and Modeling	This is the first Engineering Information System Project (EISP) course in the project-based education sequence designed to serve as core for practice-oriented learning, and thus to present all practical aspects of the engineering system life cycle and professional communications in a consistent cross-engineering and multi-disciplinary framework. The course focuses on information system life cycle and requirements engineering, while the student coursework is organized in two half-semester long projects: Project A with emphasis on data gathering and problem analysis, and Project B with emphasis on system modelling and experimentation.

Subjects Outline

PBL: Team-based Design	This is the second Engineering Information System Project (EISP) course in the project-based education sequence designed to serve as core for practice-oriented learning, and thus to present all practical aspects of the engineering system life cycle and professional communications in a consistent cross-engineering and multi-disciplinary framework. The course focuses on software system design, engineering project organization, and teamwork. The student coursework is organized in a semester-long project: Project C with emphasis on team-based design techniques and professional communication.
PBL: Creative Design	This is the third Engineering Information System Project (EISP) course in the project-based education sequence designed to serve as core for practice-oriented learning, and thus to present all practical aspects of the engineering system life cycle and professional communications in a consistent cross-engineering and multi-disciplinary framework. The course focuses on engineering project management and creative design techniques. The student coursework is organized in a semester-long project: Project D with emphasis on engineering project planning and management, as well as on creativity-promoting techniques.
PBL: Team-based Creative Design	This is the fourth Engineering Information System Project (EISP) course in the project-based education sequence designed to serve as core for practice-oriented learning, and thus to present all practical aspects of the engineering system life cycle and professional communications in a consistent cross-engineering and multi-disciplinary framework. The course focuses on advanced requirement elicitation techniques, team-based creative design, and modern software development methodologies. The student coursework is organized in two half-semester long projects: Project E that is dedicated to solving problems of social significance, and Project F where students deal with discipline-specific engineering problems from various domains.
PBL: Design Evolution	This is the fifth and the final Engineering Information System Project (EISP) course in the project-based education sequence designed to serve as core for practice-oriented learning, and thus to present all practical aspects of the engineering system life cycle and professional communications in a consistent cross-engineering and multi-disciplinary framework. The course focuses on global software engineering issues. The student coursework is organized in a semester-long project: Project G where students learn to interact with global collaborators – students and specialists from domestic and overseas organizations – while participating in distributed international projects. The intent is to provide students with experiences of joining an on-going project in its late stages with the focus on the system's operational aspects.
Introduction to Programming	This course teaches the basic concepts and techniques necessary to begin programming. After an introduction to the basic concepts of computer programming, students learn the fundamentals of modern high-level programming languages through actual programming exercises. "Processing" is used as a programming language to introduce students into visual and interactive programming. Other languages and development environments are introduced to give students the tools necessary to advance to programming for applications and research.
Introduction to OOA, OOD, and UML	This course gives basic concepts for designing software in the object-oriented approach. Class, instance and inheritance will be introduced as components of modeling for analyzing the real-world targets and designing the software. UML is also introduced as a method to describe the modeled targets and software.
Network Systems	This course introduces some practical applications and various basic technologies related to network information systems which support today's and future's advanced information society. The purpose of this course is to learn knowledge about the computer security, computer systems, communication systems, and the practical technologies of computer networks.
Human Interface	The purpose of this course is to learn basic ideas and methods of human interface, which is methodology to support interactions of humans with humans, computer systems, and environment. It gives basic methods for understanding human characteristics as well as evaluating human interfaces.
Distributed Systems	This course introduces various concepts and algorithms such as client/server model, naming, synchronization, replication, fault tolerance and security management, necessary for designing, implementing and operating distributed systems. In addition, this course gives an overview of functions and structures of some examples of distributed systems.
Web Information Engineering	Web is now one of the fundamental technologies for developing an information and communication system on the Internet. This course first introduces a basic mechanism of Web. It then explains information representation methods and programming concepts for building a Web-based system. The course also covers topics regarding an application of Web.
Visualization and Computer Art	This course teaches the fundamentals of visual communication and algorithmic graphic design. The algorithmic generation of graphics is introduced as part of the history of visual communication and the visual display of quantitative information. The course introduces the objectives of data visualization and algorithmic graphic design, ranging from understanding aesthetics to the visual communication of large-scale data and interactive systems. Students apply the concepts, primarily through programming their own two-dimensional algorithmic visualization using public data sets, but also by demonstrating a basic understanding of three-dimensional representations and systems applications of visualization.
Image Processing	The purpose of this course is to learn basic technologies of digital image processing, such as methods to transform, process, analyze and recognize digital images. The former part of this course will focus on image enhancement, image filtering, image restoration and image reconstruction, then the latter part will focus on extraction of image features, matching and recognition of images.
Ergonomics and Affective Engineering	Students learn the principles of user-centered engineering practices based on well-founded models of ergonomics and cognitive ergonomics. Understanding of user models is followed by a foundation in the basic principles and methods of cognitive ergonomic engineering. Finally, the course will cover developing methods of emotional design, affective engineering, and Kansei engineering and applications to systems design and product design.
Embedded Systems	This course prepares participants for the 'Internet of Things': microcontroller programming, interfacing to simple hardware devices, and experiencing a few of the possibilities of 'physical' computing. Course participants are required to create circuits, and write programs that interact with them, during class.
Pattern Recognition and Machine Learning	The course gives an overview of basic ideas and methods in machine learning. It begins with an introduction to statistical pattern recognition, followed by modern machine learning methods such as generative model, maximum likelihood estimation, Gaussian mixture model, Bayesian inference, ending up with more recent topics, to acquire the basic concepts and intuition behind them.
Data Science	This course surveys theories and methods developed to analyze massive collections of digital data. The course teaches how to handle, "clean", and classify digital data, using methods from exploratory data analysis, data visualization, and machine learning. Data clustering, statistical modeling, and association rules approaches are also taught, and illustrated with real world examples.
Advanced Computer Graphics	Computer graphics is the study of the visual representation of recognizable shapes, forms, glyphs, objects, and images by software algorithms. Students review the mathematics and algorithms for rendering 2D graphics. Methods of 3D rendering are explored through using 3D rendering software. These exercises allow students to become familiar with advanced concepts and techniques of graphics for communication, visualization, virtual reality, and entertainment.

Subjects Outline	
Numerical Algorithms	This course teaches fundamental principles of numerical methods and computational optimization. Polynomial approximations using finite differences, with applications in numerical integration and differentiation constitute the core of the numerical algorithms discussed, while the optimization methods are taught in the context of dealing with very-large-scale, hard-to-compute engineering problems.
海外IT研修プログラム（QUT）	高い英語運用能力を持ち合わせているだけでなく、グローバルな視点から多面的に物事を捉える能力は、国際的に活躍する技術者・研究者にとって必要不可欠なものとなっている。オーストラリア・ブリスベンにあるクイーンズランド工科大学（QUT）での研修を中心とする本プログラムは、英語の集中学習とITに関する講義、他国からの留学生との交流やホームステイ滞在を特徴とし、生活から学習に至るまで全てを英語で行うことを通して、個々にあった英語運用能力の向上と異文化適応能力を養うことに主眼を置いている。
海外IT研修プログラム（DJU）	高い英語運用能力を持ち合わせているだけでなく、グローバルな視点から多面的に物事を捉える能力は、国際的に活躍する技術者・研究者にとって必要不可欠なものとなっている。中国・大連にある大連交通大学での研修を中心とする本プログラムは、初級中国語の学習とITに関する講義（英語）、現地IT企業での研修などを特徴とし、個々にあった英語運用能力の向上、初級中国語の学習及び異文化適応能力を養うことに主眼を置いている。
海外IT研修プログラム（UW）	高い英語運用能力を持ち合わせているだけでなく、グローバルな視点から多面的に物事を捉える能力は、国際的に活躍する技術者・研究者にとって必要不可欠なものとなっている。アメリカ合衆国・シアトルにあるワシントン大学（UW）での研修を中心とする本プログラムは、アカデミック・スキルの基礎力養成に重点を置おいた英語授業、IT分野のゲストスピーカーによる専門分野の講義、世界的に優れた技術を持つ現地IT企業への訪問、という3コンポーネントを有機的に連携することにより、高い英語運用能力の習得と専門分野の知識を身につけることを目的としている。また、滞在中のホームステイを通して柔軟性のある異文化適応能力を身につけることを目指す。
海外IT研修プログラム（SCIT）	夏期休暇中に、急速にIT産業が成長してきているインド共和国の第2のIT産業都市プネにて、5週間にわたって、アカデミック英語と、英語によるIT（オブジェクト指向設計）の研修を行う。事前講義にて英会話とオブジェクト指向設計の基礎を学んだ上で、現地で研修を受ける。研修の最後には、グループによるミニプロジェクトとして、特定のシステムについて実際にオブジェクト指向設計・実装を行い、成果を英語で発表する。事後講義では英語にて成果を報告する。そのほか、インドIT企業訪問、文化体験、現地のインド人学生との交流会などが含まれる。
海外IT研修プログラム（NEU）	高い英語運用能力を持ち合わせているだけでなく、グローバルな視点から多面的に物事を捉える能力は、国際的に活躍する技術者・研究者にとって必要不可欠なものとなっている。中国・瀋陽にある東北大学での研修を中心とする本プログラムは、初級中国語の学習とITに関する講義（英語）、現地IT企業での研修などを特徴とし、個々にあった英語運用能力の向上、初級中国語の学習及び異文化適応能力を養うことに主眼を置いている。
グローバルインターンシップ	本科目は、学部専門科目で培った専門知識をいかしながら、日系IT企業や現地IT企業でインターンシップに取り組むことによって専門性を深めるとともに、卒業研究で必要な自主性や計画性を養う。また、実社会での就業体験を通じて、コミュニケーション能力、チームワーク力、異文化理解力などの社会人基礎力も養成する。さらに、現地での生活・安全管理等に関する事前研修と、研修成果を発表する事後研修を実施する。
特殊講義（グローバル・キャリア養成）	本科目では、実践的な課題を設定して、その解決策を見つけることで、社会で活躍できる情報技術者として必要な基礎力を養成する。グループ学習などを通じて、論理的思考力、コミュニケーション力、プレゼンテーション力、ファシリテーション力など、グループで活動する力を身につけることを主眼とした授業を展開する。