Master of Science in Artificial Intelligence

PostGraduate Program

FACULTY OF COMPUTING AND INFORMATION TECHNOLOGY

Prepared By:Graduate Committee
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Introduction

The Faculty of Computers and Information Technology at the University of Tabuk proposes a new Master program in Artificial Intelligence (AI). The program is one of the first specialized AI graduate programs in Saudi Arabia. It is designed to provide students with a comprehensive knowledge in artificial intelligence.
It is a graduate professional program that prepares students to compete for jobs in high-demand in the field of Artificial Intelligence industry. The program adopts a project-based method that helps the students to apply the concepts learned in the core courses into a project during their last two semesters.
To achieve the program's objectives, it is significant for the program to enable students to be engaged into extensive courses that provide them with the core concepts, which represent the foundations of Artificial Intelligence. In order to increase and expand Student knowledge, a variety of elective course that are essentially in Artificial Intelligence are offered to students. An AI lab plus our new Centre of Industrial Innovative and Robotics, with all its valuable equipment, will be available for our Master program in Artificial Intelligence. The program qualifies individuals to expand their knowledge by providing an internship during a full semester in their study.
The program curriculum will develop deep understanding and acquire knowledge in the state-of-the-art in Artificial Intelligence, Machine Learning, Deep Learning, Robotics, Fuzzy-based Methods and Data Science and the application of these techniques in Autonomous Driving and Compute Vision, for examples. The curriculum also contains a project that enables students to apply core course materials to a practical project in an actual environment. The program is designed to enable graduates to attain development positions and to attain research in this rapidly growing field

Vision of the Faulty of Computing and Information Technology

A distinguished faculty and pioneer in education and research contributing to the service of the community in the field of computers and information technology locally and regionally

Mission of the Department of Computer Science

The Computer Science program is committed to offer high-quality education and research principles skills that preparing the students for a lifelong learning and careers with high level of professional ethics and responsibility; as well as contributing effectively to serve the society.

Master of Science Artificial Intelligence program

Degree Title

Master of Science in Artificial Intelligence.

Mission

Given the growing needs in industrial, the mission of the Master of Science in Artificial Intelligence program is to graduate students with a solid knowledge in artificial intelligence and preparing them to compete successfully for jobs in high-demand A.I. industry.

Educational Objectives

The Master of Artificial I program prepared students:

- Understand algorithms and techniques used in Artificial Intelligence and related fields.
- Apply machine learning, deep learning and data science techniques in different fields and in new environments
- Demonstrate knowledge of the use of AI algorithms and processes in different fields of AI like robotics, machine learning, vision, autonomous driving and knowledge representation and reasoning
- Acquire new knowledge and understanding through reading of research material.
- be able to evaluate AI-based solutions in a wide range of applications
- To predestine substantially trained specialists in Artificial Intelligence for Saudi industry.
- To help students to proceed their responsibilities in professional and ethical manners.

Learning Outcomes

At the end of the program, graduates should be able to:

1. Understand and analyse current Artificial Intelligence -based obstacles and research issues
2. Demonstrate scientific and technological topics in an efficient manner and explain underlying Artificial Intelligence techniques and how they can be incorporated in providing solutions and in different environments.
3. Identify, investigate, and define AI problems, model and evaluate Solutions and their performance.
4. Obtain the skills to develop solutions for different AI-based problem.
5. Obtain efficient communication skills and written proficiencies to be able to work with professionals in a team environment.

Program Design

The Master of Science in Artificial Intelligence program at the University of Tabuk is a course-based program along with a project to be submitted at the end of the program during two semesters.
The students are required to complete a minimum of 47 credit hours by both courses and a project.

Detailed Program Design

With the approval of a supervising professor, qualified students may be admitted to the program. Master of Science in Artificial Intelligence students must complete 12 courses, 2 research projects (Research Project 1 and Research Project 2) and an internship in one of well-known organizations
In particular, students must complete minimum 47 credit hours, including:

1. At least 36 course credits that include:
   - 33 course credits of core courses.
   - 3 elective course credit.
2. 8 Project credits: Research Project 1 (4 credits) and Research Project 2 (4 credits).
3. 3 course credits for an internship period.

During the first and second semester of the program time the students will focus on courses. From the third semester students will focus on their research projects.

Admission Requirements

Applicants must have an earned bachelor's degree in the field of information technology, engineering, computer science or related fields (i.e. Electrical or Electronics Engineering) from a regional and/or national college (or its equivalent from a recognized institution) prior to enrolment at the program. In addition, the following should be satisfied for a complete application

- Minimum good academic standing.
- Successful completion of at least one course in advanced programming (e.g., Java/C/C++/C#) Object Oriented, Databases, and mathematics (e.g., linear algebra, calculus, number theory, etc)

Additional requirements:

- A portfolio indicating relevant work experience and skills in Computer Science and information technology.
- Work experience in IT-related jobs is preferred.

Program Prerequisites

Applicants of the program are required to have background knowledge in areas such as programming, mathematics, and computer systems. The Graduate Studies Committee will determine which, if any, of the following prerequisite courses will need to be taken.

Applicants, who fulfill some of below listed prerequisites while lacking others, may undertake them at the undergraduate level, but prior to program begin. Applicants are required in this case to complete these prerequisites with a grade of "Good" or better (from the first time of enrollment) and a GPA not less than "Good" and the final decision about admission to program under these terms are at the sole discretion of the Graduate Studies committee and the department council. Prerequisite courses do not count toward the required credits for the Master's degree.

Accordingly, all Applicants must satisfy the following **"breadth"** requirements demonstrating proficiency at the undergraduate level in the "breadth" requirements which include:

- Programming Languages.
- Theoretical Foundations of Computer Science and Information Technology.
- Mathematical Foundations

Each breadth contains the followings:

1. Programming Languages
    - Programming Languages: e.g. Java, C++, C# and advanced topics in programming e.g. object oriented.
2. Theoretical Foundations of Computer Science and Information Technology.
    - Data Structures and Databases.
3. Mathematical Foundations
    - Calculus
    - Linear Algebra
    - Statistics and Probability Theory

An applicant for admission should minimally have a bachelor's or equivalent degree in computer science, information technology, computer information system or Computer engineering, Electrical or Electronics Engineering from a recognized college or university, must have the necessary academic preparation to

complete graduate level courses, and must be able to score competitively on the on the TOEFL / IELTS test. Condition admission is not offered, and a transitional or pre-master's program is not available.

Besides, the department of Computer Science may grant provisional approval to candidates with a B.Sc. in a different area with the requirement that they succeed in B.Sc. level courses of the required prerequisites with a minimum grade of "Good" from the first time.

In addition to the conditions enumerated in the 13ththrough 18th articles(in particular) and all articles (in general) of *the unified law organizing the graduate studies in Saudi universities*, and those also enumerated in *the Regulations and operating procedures for the Postgraduate Study booklet (University of Tabuk)*, applicant has to fit and/or submit the following criteria:

1. **Required documents to be submitted**:

    - Official transcript and graduation statement from each institution attended. Official transcripts are defined as original documents issued by the institution that bear the actual signature of the Registrar.
    - Two (2) letters of recommendation. The letters should be from academic staff members in recognized universities and from those who have taught the student in his/her junior and senior years.
    - General Aptitude Test (GAT) for bachelor's degree holders (KSA) with a minimum score of 55.
    - A recent resume or vitae.
    - Personal Statement (Application Letter).
    - A formal approval from applicant's employer (for those who are employed).
    - Any additional departmental or university admission requirements

2. **Grade Point Requirement:**

    The university requires at least a scholastic average of "Very Good" in the bachelor program.

3. **English Proficiency:**

    Proficiency in English is an admission requirement for the program. Proficiency tests must be taken within the last two (2) years of the date of the application submission.

    Accepted tests:

    - Test of English as a Foreign Language (TOEFL) with a minimum score of 450 (PBT), 160 (CBT), 55 (IBT).
    - International English Language Testing System (IELTS) with a minimum score of 4.5.
    - Standardized Test for English Proficiency (STEP) with a minimum score of 75%.
    - English Proficiency Test (Level Four). The test is provided by the Deanship of the Community Service and Continuing Education at the University of Tabuk).

4. **Admission Exam:**

   All applicants must pass a written admission exam.

Degree Requirements

Courses

Students must satisfy the requirements listed in *Program Design* Section.

Each student must submit an approved project, based on appropriate research experience, in accordance with the regulations of the both the university and the department. The project must be produced under the direction and with the approval of the student's research supervisor, who must be a member of the faculty staff. The handbook(s) of the Deanship of Postgraduate Studies should be consulted for rules, procedures, and deadlines for preparation and submission of the final approved copy of the project.
Each candidate must also pass a project examination to evaluate the student knowledge and contribution of research in terms of a viva examination.

Academic Standards

Students must maintain accumulative Grade Point Average (GPA) not less than "Good" on the graduate degree courses.

Time Limit

The entire work for the Master's degree can be completed within a period of 2.5 calendar year. But, all articles of the unified law organizing the graduate studies in Saudi universities, and those also enumerated in the Regulations and operating procedures for the Postgraduate Study booklet (University of Tabuk), control time limit for acquiring Master's degree.

Program Duration

2.5 year (5 Semesters): Full-time

Fees

18,000 SAR per semester. (No fees for Summer Internship)
72,000 SAR per program.

Master of Artificial Intelligence: Study Plan

MIS Full Time –2.5 Year Plan

1St Semester

المقابل اللغوى		Prerequisite	Credits		Total Credits	المقـــــــرر
Course Title	Code/No		Pr.	Th.		
Fundamentals of Artificial Intelligence	CSC601	-	-	٣	٣	أساسيات الذكاء الاصطناعي
Advanced Mathematical Methods for AI	CSC602	-	-	٣	٣	طرق الرياضيات المتقدمة للذكاء الاصطناعي
Advanced AI Programming and Frameworks	CSC605	-	-	٣	٣	البرمجة المتقدمة وإطارات برمجة الذكاء الاصطناعي
Research Methods	CSC608	-	-	٣	٣	طرق بحث
			-	١٢	١٢	المجموع

2nd Semester

المقابل اللغوى		Prerequisite	Credits		Total Credits	المقـــــــرر
Course Title	Code/No		Pr.	Th.		
Machine Learning	CSC603	CSC602	-	٣	٣	التعلم الآلي
Computer Vision	CSC606	-	-	٣	٣	الرؤية بالحاسب
Robotics and Embedded Systems	CSC609	CSC602	-	٣	٣	الروبوتية والأنظمة المضمنة
Fuzzy Logic Systems	CSC607	–	–	٣	٣	الأنظمة المنطقية الضبابية
				١٢	١٢	المجموع

Summer Semester

المقابل اللغوى		Prerequisite	Credits		Total Credits	المقـــــــرر
Course Title	Code/No		Pr.	Th.		
Internship	CSC699	-	-	–	٣	فترة تدريبية
					3	المجموع

3rd Semester

المقابل اللغوى		Prerequisite	Credits		Total Credits	المقـــــــرر
Course Title	Code/No		Pr.	Th.		
Neural Networks and Deep Learning	CSC604	CSC603	-	٣	٣	الشبكات العصابية والتعلم الذكي
Advanced Robotics	CSC610	CSC609	-	٣	٣	الروبوتية المتقدمة
Research Project 1	CSC624	Completion of 21 credit hours	–	٤	٤	مشروع بحثي ١
				10	١٠	المجموع

4th Semester

المقابل اللغوى		Prerequisite	Credits		Total Credits	المقـــــــرر
Course Title	Code/No		Pr.	Th.		
Introduction to Data Science	CSC611	-	–	٣	٣	مقدمة لعلم البيانات
Elective Course	-	Completion of 30 credit hours	-	٣	٣	مقرر اختياري
Research Project 2	CSC625	CSC624	–	٤	٤	مشروع بحثي ٢
				10	10	المجموع

Elective Courses

المقابل اللغوى		Prerequisite	Credits		Total Credits	المقـــــــرر
Course Title	Code/No		Pr.	Th.		
Natural Language Processing	CSC612	Completion of 30 credit hours	–	٣	٣	معالجة اللغات الطبيعية
Information Retrieval	CSC613		-	٣	٣	أنظمة استرجاع المعلومات
Big Data	CSC614		–	٣	٣	البيانات الكبيرة
Bioinformatics	CSC615		–	٣	٣	البيانات الحيوية
Self-driving Vehicles	CSC616		-	٣	٣	القيادة الذاتية للمركبات
Data Mining	CSC617		–	٣	٣	تنقيب البيانات
Parallel Computing	CSC618		–	٣	٣	الحوسبة المتوازية
Quantum Artificial Intelligence	CSC619		-	٣	٣	الذكاء الاصطناعي الكمي
Smart Space and IoT	CSC620		–	٣	٣	الفضاء الذكي وانترنت الأشياء
AI for Wearable and Healthcare	CSC621		–	٣	٣	الذكاء الاصطناعي في المجال الطبي
Selected topics in AI	CSC622		-	٣	٣	مواضيع مختارة في الذكاء الاصطناعي

Appendix B: Courses

Core Courses:

Code	Course Title	Credits	Prerequisite
CSC 601	Fundamentals of Artificial Intelligence	3	None

Description

This course gives a basic introduction to artificial intelligence (AI) and its applications. Students will study the core concepts and topics of AI including its history, solving problems, algorithmic and learning approaches. Through this course, students will learn how to apply AI methods to solve different problems. This course is an exploration of AI domain and its applications in modern lives.

Code	Course Title	Credits	Prerequisite
CSC 602	Advanced Mathematical Methods for AI	3	None

Description

This course familiarizes students with theories, fundamental conceptions and their basic applications in probability, mathematics statistics, calculus and linear algebra. The course aims at helping students who have a major in computing, science, and other similar fields to develop skills that are useful in solving mathematical problems; for example, computing skills of statistics and probability, calculus and linear algebra that are needed as core subjects to proceed with the machine learning course.

Code	Course Title	Credits	Prerequisite
CSC605	Advanced AI Programming and Frameworks	3	None

Description

This course introduces students to the dominant programming languages for AI/ML and deep learning. It dives deeply into programming tools, libraries, and frameworks for building research projects. This includes reading and loading datasets, preprocessing data, understanding structure using statistical summaries and data visualization, data manipulation, and cleaning techniques. This course also guides students through learning and implementing popular ML and deep learning frameworks such as TensorFlow, Keras, and PyTorch for symbolic math, used to perform differential programming and linear algebra.

Code	Course Title	Credits	Prerequisite
CSC608	Research Methods	3	None

Description

The course aims to familiarize students with the fundamental concepts of research and the importance of research and its methodologies, including theory of science and qualitative and quantitative methods. Also, the course aims to give students skills for understanding the structure of a research paper, critical reading of research paper, developing a research proposal for a master's project and writing a research manuscript.

Students will use these theoretical concepts of research to begin to critically review literature relevant to the field of artificial intelligent and its applications.

Code	Course Title	Credits	Prerequisite
CSC603	Machine Learning	3	CSC602

Description

This course introduces the fundamental concepts and functioning of machine learning. It covers theoretical foundations as well as essential algorithms for supervised and unsupervised learning. The practical part will focus on the application of machine learning to a range of real-world problems. The topics include linear and logistic regression, naïve Bayes classifier, k-NN, decision tree, random forest, support vector machine, clustering, dimensionality reduction, and perceptron.

Code	Course Title	Credits	Prerequisite
CSC606	Computer Vision	3	None

Description

This course introduces the students to computer vision throughout the continuum from image processing to computer vision, which can be broken up into low, mid and high-level processes, including Image Acquisition, Image Enhancement, Image Restoration, Morphological Processing, Image Segmentation, Representation & Description, and Object Recognition.

Code	Course Title	Credits	Prerequisite
CSC609	Robotics and Embedded Systems	3	CSC602

Description

Robotics and Embedded systems course covers the fundamentals of robotics including position, actuators, and robot coordinate system. Manipulator configuration including axis, angles, and frames are also investigated. Moreover, understanding forward and inverse kinematics as well as Denavit-Hartenberg convention. In the Embedded system part of the course, the following topics are covered: CPU architecture, instruction set, program development, and structured assembly processor.

Code	Course Title	Credits	Prerequisite
CSC607	Fuzzy Logic Systems	3	None

Description

The goal of the course is to familiarize students with theoretical background besides the mathematical models of fuzzy logic and sets. When it is compared to the traditional logical systems, the fuzzy logical theory is closer to human thinking in spirit than the traditional logical system; the Fuzzy logic try to imitate human thinking thus reason in a way that is approximate rather than precise. This course has elements that assist students in understanding how to build fuzzy information representation and processing; this includes approximate reasoning and fuzzy inference. The knowledge enables the students to design intelligent systems, as well as controllers. The course will equip students with knowledge on the recent innovations of fuzzy logic systems, whose example include computing with words, the Interval Type-2 fuzzy systems, and the general Type-2 Fuzzy logic systems

Code	Course Title	Credits	Prerequisite
CSC604	Neural Networks and Deep Learning	3	CSC603

Description

This course offers a broad introduction to neural networks and deep learning. It also explores the applications and theories relevant to problem solving using deep learning. The course applies deep learning algorithms to real-life problems in diverse domains such as computer vision, natural language processing, sequence modelling, and more. It covers neural networks, backpropagation, optimization (SGD, RMSprop, and Adam), autoencoders, convolutional neural networks, inception, residual networks, RNNs, LSTM, dropout, batch normalization, Xavier initialization, transfer learning, generative adversarial networks, and deep reinforcement learning.

Code	Course Title	Credits	Prerequisite
CSC610	Advanced Robotics	3	CSC609

Description

Advanced Robotics course investigates high-level robotic topics such as velocity kinematics, Jacobian derivation, singularities, performance matrices, trajectory planning, and PID control. In addition, topics like velocity sensing, control theory, path control, dynamics, and automation are also covered. In the practical part of the course, simulation of manipulators and robot programing are investigated.

Code	Course Title	Credits	Prerequisite
CSC611	Introduction to Data Science	3	CSC611

Description

The Data Science course concentrates on techniques and methods needed to in the Data Science project life-cycle, which includes data collection, data management and data preprocessing, analysis, presentation, as well as operationalization. This class aims at giving students an introduction to all phases of the process of data process and using modern tools and real data; they will gain hands-on experience of the process. The course includes topics such as data formats, cleaning, and loading; data analysis, data governance, data storage in no-relational and relational store; topping up using cluster computing; and data visualization. They will also store and access various data through using suitable data management tools, database, control accessibility of data that is sensitive, and implement conversions of data in different formats. Finally, students will be capable of presenting the results of data science project using reports and visualizations to be used as a foundation of operationalization.

Elective Courses:

Code	Course Title	Credits	Prerequisite
CSC612	Natural Language Processing	3	completion of 30 credit hours

Description

This course provides an introduction to the field of computational linguistics, also called natural language processing (NLP) - the creation of computer programs that can understand and generate natural languages (such as English). We will use natural language understanding as a vehicle to introduce the three major subfields of NLP: syntax (which concerns itself with determining the structure of an utterance), semantics (which concerns itself with determining the explicit truth-functional meaning of a single utterance), and pragmatics (which concerns itself with deriving the context-dependent meaning of an utterance when it is used in a specific discourse context). The course will introduce both linguistic (knowledge-based) and statistical approaches to NLP, illustrate the use of NLP techniques and tools in a variety of application areas, and provide insight into many open research problems.

Code	Course Title	Credits	Prerequisite
CSC613	Information Retrieval	3	completion of 30 credit hours

Description

This course studies the basic principles and practical algorithms used for information retrieval and text mining. It covers the tasks of indexing, searching, and recalling data, particularly text or other unstructured forms. The contents also includes statistical characteristics of text, several important retrieval models, text categorization, recommendation system, clustering, information extraction, etc. The course emphasizes both the above applications and solid modeling techniques (e.g., probabilistic modeling) that can be extended for other applications.

Code	Course Title	Credits	Prerequisite
CSC614	Big Data	3	completion of 30 credit hours

Description

This course gives an overview of the Big Data phenomenon, focusing thenon extracting value from the Big Data using predictive analytics techniques. It also focuses on big data phenomenon, the main Big Data tools (Hadoop & Spark) , the potential use in a corporate environment, the use of predictive analytics on big data

Code	Course Title	Credits	Prerequisite
CSC615	Bioinformatics	3	completion of 30 credit hours

Description

This course introduces key concepts and methods in bioinformatics. Emphasis will be put on efficient algorithms and techniques used in common applications for the analysis of genetic sequences. Topics covered: comparison and alignment of two or more sequences, indexing and searching of sequence databases, motif discovery, searching with sequence patterns, gene prediction as well as mapping and assembly of data from genome sequencing. Necessary basic knowledge of molecular biology will be communicated throughout

Code	Course Title	Credits	Prerequisite
CSC616	Self-driving Vehicles	3	completion of 30 credit hours

Description

Self-driving cars, have rapidly become one of the most transformative technologies to emerge. They depend on Deep Learning algorithms and they create new opportunities in the mobility sector. This course is an introduction to the practice of deep learning through the applied theme of building a self-driving car. It is open to beginners and is designed for those who are new to machine learning, but it can also benefit advanced researchers in the field looking for a practical overview of deep learning methods and their application.

Code	Course Title	Credits	Prerequisite

CSC617	Data Mining	3	completion of 30 credit hours

Description

In this course we explore data mining interdisciplinary field brings together techniques from databases, statistics, machine learning, and information retrieval. We will discuss the main data mining methods currently used, including data warehousing and data cleaning, clustering, classification, association rules mining, query flocks, text indexing and searching algorithms, how search engines rank pages, and recent techniques for web mining. Designing algorithms for these tasks is difficult because the input data sets are very large, and the tasks may be very complex. One of the main focuses in the field is the integration of these algorithms with relational databases and the mining of information from *semi-structured* data.

Code	Course Title	Credits	Prerequisite
CSC618	Parallel Computing	3	completion of 30 credit hours

Description

This course discusses several aspects of parallel computing including parallel architectures, parallel algorithms, parallel programming languages and applications. Students will become familiar with different parallel computing approaches, software design, and programming environments. Also, students will learn how to design, analyze, and implement parallel algorithms for several kind of problems.

Code	Course Title	Credits	Prerequisite
CSC619	Quantum Artificial Intelligence	3	completion of 30 credit hours

Description

Quantum artificial intelligence (QAI) is an interdisciplinary field that focuses on building quantum algorithms for improving computational tasks within artificial intelligence, including sub-fields such as machine learning, computer vision, natural language processing and robotics, allowing quantum computing to perform computations which are much more efficient than the classical ones.

Code	Course Title	Credits	Prerequisite

CSC620	Smart Space and IoT	3	completion of 30 credit hours

Description

The course covers what smart space are, exploring the contrasting visions of how they will transform our urban environments and lives, and considers whether smart cities can be sustainable. Then explains the role that latest and emerging smart networking technologies including Cloud Computing, Virtual Networking, big data analytics, 5G Mobile Networks, Mobile App Development, Unmanned Aerial Vehicles (UAVs), and Data and Network Security, which are creating new opportunities for business, education, research and many other aspects of our daily lives. technology can play in transforming cities and considers challenges such as data ownership, privacy and ethics.

Code	Course Title	Credits	Prerequisite
CSC621	AI for Wearable and Healthcare	3	completion of 30 credit hours

Description

This course will present the advantages and challenges of telemedicine services. Special focus is placed on how communication, innovative technology, safety and efficiency are addressed through telemedicine. Also, the course covers Wearable technologies which can be innovative solutions for healthcare problems. The big data generated by wearable devices is both a challenge and opportunity for researchers who can apply more artificial intelligence (AI) techniques on these data in the future.

Code	Course Title	Credits	Prerequisite
CSC622	Selected topics in AI	3	completion of 30 credit hours

Description

To highlights the up to date issues in Artificial Intelligence field. The main purpose of this course is to highlight and investigate selected "special topics" in Artificial Intelligence that are not covered in the other offered courses. Such topics might be interrelated to one or more AI disciplines.

Research Projects:

Code	Course Title	Credits	Prerequisite
CSC624	Research Project 1	4	completion of 21 credit hours

Description

This course provides students with an opportunity to gather the knowledge and skills learned from the program coursework and conduct a research project with industrial applications. Students are expected to conduct a review of research literature and develop a set of hypotheses for a research project in AI. A research project explaining the hypotheses and alternative remedies to the problem must be submitted to the faculty supervisor at the end of the semester. Students are evaluated based on their research project and oral presentation.

Code	Course Title	Credits	Prerequisite
CSC625	Research Project 2	4	CSC624

Description

The research outlined in the CSC624 proposal must be completed during this course. The final report of the research findings and recommendations should be submitted to the advisor and the results presented. The results should have direct practical applications and / or be available for publication in refereed publications. Students are evaluated based on the submitted research and oral presentation.

Code	Course Title	Credits	Prerequisite
CSC699	Internship	3	completion of 18 credit hours

Description

As part of student's academic program and the most valuable step to learn and experience knowledge from a full-time employment, an internship course gives a significant opportunity for students to engage with professional people and gain practical training experiment. Students will be able to apply theoretical concepts to practical or laboratory work.