California Science and Technology University
01/01/2024 - 12/31/2024
www.cstu.edu

CATALOG

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1. MISSION STATEMENT

At California Science and Technology University, our mission is to empower our students with a comprehensive education that extends beyond traditional learning. We are dedicated to nurturing critical thinkers, problem solvers, and innovators who are prepared to excel in their chosen careers. Our threefold commitment is:

- Excellence in Career Readiness: We prioritize equipping our students with the skills and knowledge necessary for successful job placement. Our curriculum is tailored to meet the demands of the ever-evolving job market, particularly in the high-tech industries prevalent in Silicon Valley and beyond.

- Student-Centric Education: Our educational approach is centered around the unique aspirations and needs of each student. We foster a supportive and engaging learning environment, where students are encouraged to take an active role in their education, promoting personal growth and collaborative learning.
- Commitment to Technological Advancement: In an era of rapid technological change, CSTU is at the forefront of integrating the latest technologies into our educational programs. Our proximity to Silicon Valley allows us to stay abreast of cutting-edge developments, ensuring that our students are versed in the most current technologies and innovations.

Our mission at CSTU is not only to fulfill the educational aspirations of our students and faculty but also to contribute to the community by producing highly capable professionals. We aim to be a catalyst for change and progress, preparing our graduates to meet the challenges and opportunities in their respective fields with confidence and expertise.

2. HISTORY

California Science and Technology University (CSTU) emerged in the 1990s as a pivotal training hub for Silicon Valley professionals, aiding in career transitions and job placements. After a preparatory period of extensive training programs, CSTU was officially founded in September 2011. This initiative was led by visionary technology leaders from Silicon Valley who recognized a gap in traditional academic institutions: the need to teach practical, cutting-edge technologies that are essential in the rapidly evolving tech industry. Located in the heart of Silicon Valley, the birthplace of many groundbreaking technologies, CSTU was created to address the urgent demand for professionals adept in these new technologies. The university catered to working professionals seeking to upskill without stepping away from their careers.

In May 2017, CSTU's journey took a significant leap forward with the involvement of two entrepreneurs. Their contribution brought substantial funding, allowing the institution to expand its reach and offerings. Over the last three decades, CSTU has evolved, phasing out some non-degree programs while maintaining its primary focus on technology-oriented education.
Today, CSTU boasts a robust portfolio of programs including the Master of Business Administration (MBA), Master of Science in Computer Systems and Engineering (MSCSE), Bachelor of Science in Business Administration (BSBA), Bachelor of Science in Computer Systems and Engineering (BSCSE), and the Emerging Technology Training Program. Plans are underway to introduce more programs in 2024.

A landmark achievement came in 2022 when CSTU earned accreditation from the Accrediting Commission of Careers Schools and Colleges (ACCSC). In the same year, the university also

gained approval to accept international students. CSTU's practical curriculum and strategic location in Silicon Valley have made it an attractive destination for students globally.

3. OBJECTIVES

California Science and Technology University is committed to propelling students to the forefront of technological innovation and enhancing their professional capabilities. Our key objectives include:

- Tailored Education for Professionals: Recognizing the unique challenges faced by working professionals, we provide adaptable and accessible higher education opportunities.
- Career-Focused Training: We equip our students with industry-specific training, preparing them for the dynamic demands of their future careers.
- Relevant and Contemporary Curriculum: Our academic offerings are continuously updated to reflect the latest developments in technology and market trends.
- Industry-Experienced Faculty: Our academically distinguished faculty members also possess substantial real-world industry experience, enriching the learning experience.
- Emphasis on Cultural Diversity: We integrate an understanding and appreciation of cultural diversity into our educational ethos.
- Adaptive Educational Support: Our support services are designed to accommodate the diverse life circumstances and schedules of our student body.
- Encouraging Continuous Learning: We foster an environment that values and promotes lifelong learning and continuous personal and professional development.
- Technologically Advanced Education: Our teaching methodologies and resources are geared towards making the most of current technological advancements.

In achieving these objectives, CSTU adheres to the highest ethical standards. Our operations and daily activities are deeply rooted in core values such as:

- Respect for All: We are committed to respecting the rights and dignity of every member of our community.
- Unwavering Integrity: Our conduct, both within and outside the university, is guided by a strong sense of integrity.
- Responsible Accountability: We hold ourselves accountable for ethical behavior and for adhering to legal and institutional guidelines.
- Pursuit of Excellence: Our dedication to excellence is unwavering, as we continually strive to excel in all our endeavors.

These values are not merely guidelines at CSTU; they form the foundation of our institution. We strive to not only educate but also to inspire our students and staff to excel and make a positive impact in the wider community.

4. NON-DISCRIMINIATION POLICIES

CSTU does not discriminate on the basis of race, religion, color, national origin, sex, handicap or disability, or age in any of its policies, procedures or practices. The university's nondiscrimination policies comply with Title VI of the Civil Rights Act of 1964 (pertaining to race, color, and national origin), Title IX of the Education Amendments of 1972 (pertaining to sex), Vietnam Era Veterans Readjustment Assistance Act of 1974 (pertaining to veterans), and Section 504 of the Rehabilitation Act of 1973 (pertaining to age).

5. NO FALSE ADVERTISING POLICIES

CSTU does not use erroneous, deceptive, or misleading information for recruiting students. Published data are collected in the manner required by internal policy and governing agencies. Verification of data is through CSTU or an independent third-party employment data verification company.

6. FACILITIES

Classes are held at 1591 and 1601 McCarthy Blvd., Milpitas, CA 95035. The campus is located in a high-technology R&D and business development area, situated three blocks north of the Montague Expressway just west of where Interstate 880, the Nimitz Freeway. The fully landscaped and abundant parking areas provide smooth traffic flow and easy building access; the peaceful neighborhood provides an appropriate learning environment for the students. The building is accessible to people using wheelchairs. The campus provides enough space for lecturing and activities and can be expanded easily if needed. Public transportation is available to the campus. Students can take the Valley Transportation Authority (VTA) light rail to reach the campus. Once get off the VTA light rail stop, it only takes a few minutes to walk into the classroom.

CSTU adopts small classroom strategy to ensure the best learning environment. The maximum student to instructor ratios for classroom instruction is 35:1. The maximum number of students per classroom is 35.

The building provides high speed Wi-Fi internet services to all students and faculties. The facilities have adequate lighting, are air-conditioned and wheelchair accessible. Free student parking (including handicapped) is available around the building.

The building is equipped with central heating/air conditioning systems. All classrooms have a temperature control unit and is equipped with a large TV screen connected to an instructor's demo

computer with access to the campus networks system and Internet, and a white board in addition to other standard classroom provisions.

7. DISCLOSURE STATEMENTS

This institution is a private institution approved to operate by the California Bureau for Private Postsecondary Education. Approval to operate means the institution is compliant with the state standards as set forth in the CEC and 5, CCR.

California Science and Technology University offers scholarships to students accepted into the Emerging Technology Training program or the degree programs. The scholarship for accepted students referred by career organizations is to cover the gap between the tuition and the funds provided by the career organizations. For those students who are not referred by career organizations and qualify for admission, CSTU will also provide a similar level scholarship to them for enrolling in the Emerging Technology Training Program or the degree programs. CSTU also provides a scholarship to promising students based on students' experience at a minimum of one year in the high-tech industry or who have completed courses in math and engineering with a GPA of 3.5 or above from a postsecondary institution approved by a state and/or accredited by an agency recognized by the U.S. Department of Education. For international students, the transcripts need to be evaluated by a third-party evaluation agency. CSTU recommends using an agency that is a member of the National Association of Credential Evaluation Services (NACES).

CSTU's degree programs are not intended to prepare graduates for any position that requires California State Licensure. This means our graduates are not eligible to sit for applicable licensure in California or other states.

A student or any member of the public may file a complaint about this institution with the Bureau for Private Postsecondary Education by calling (888-370-7589) or by completing a complaint form, which can be obtained on the Bureau's Internet Web site (www.bppe.ca.gov). A student can also file a complaint with ACCSC at 2101 Wilson Boulevard, Suite 302, Alington, VA 22201.

If a student obtains a loan to pay for an educational program, the student will have the responsibility of repaying the full amount of the loan plus interest, less the amount of any refund. If the student receives federal student financial aid funds, the student is entitled to a refund of the money not paid from federal student financial aid program funds.

As a prospective student, you are encouraged to review this catalog prior to signing an enrollment agreement. You are also encouraged to review the School Performance Fact Sheet, which must be provided to you prior to signing an enrollment agreement.

Any questions a student may have regarding this catalog that have not been satisfactorily answered by the institution may be directed to admission office at the telephone number (408) 400-3948 or by email at admission@cstu.edu.

This institution is committed to providing a work environment that is free of discrimination, intimidation and harassment. In keeping with this commitment, we believe that it is necessary to affirmatively address this subject and express our strong disapproval of sexual harassment. No one associated with this institution may engage in verbal abuse of a sexual nature; use sexually degrading or graphic words to describe an individual or an individual's body; or display sexually suggestive objects or pictures at any facility or other venue associated with this institution. Students are responsible for conducting themselves in a manner consistent with the spirit and intent of this policy.

CSTU does not assume responsibility for student housing, does not have dormitory facilities under its control or ownership, and is not affiliated with any dormitory or housing facilities.

The average cost for a room or apartment rental varies from between $550 for a room per month to $2,500 per month for a two-bedroom apartment. Student Services will provide students information on accommodation in the area.

CSTU does not provide housing assistance services to the students. CSTU has no responsibility to find or assist a student in finding housing.

California Science and Technology University lectures are offered in both distance learning and onsite learning. The lectures received through distance learning are conducted in real time utilizing Zoom software. Students attend lectures in a classroom on weekends and distance learning during weekdays. The instructor or teaching assistant assist students either onsite or through Zoom. Students' projects, assignments, etc., are evaluated and feedback to students within 7 (seven) days after the projects, assignments are submitted to the instructor or teaching assistant.

It is the policy of the institution to always provide a copy of the latest catalog either in print or electronically on the institution's website to all prospective students. This catalog, pursuant to section 94909 of the Code, shall be updated annually. Annual updates may be made by the use of supplements or inserts accompanying the catalog. If changes in educational programs, educational services, procedures, or policies required to be included in the catalog by statute or regulation are implemented before the issuance of the annually updated catalog, those changes shall be reflected at the time they are made in supplements or inserts accompanying the catalog.

Prior to signing an enrollment agreement, you must be given this catalog and a School Performance Fact Sheet, which you are encouraged to review prior to signing any agreement with the institution.

These documents contain important policies and performance data for this institution. This institution is required to have you sign and date the information included in the School Performance Fact Sheet relating to completion rates, placement rates, license examination passage rates, and salaries or wages, prior to signing an enrollment agreement.

The president is responsible for monitoring new policies and procedures and maintaining the school in compliance with the California Private Postsecondary Education Act of 2009.

CSTU does not have a pending petition in bankruptcy, and is not operating as a debtor in possession, has not filed a petition within the preceding five years, or has not had a petition in bankruptcy filed against it within the preceding five years that resulted in reorganization under Chapter 11 of the United States Bankruptcy Code (11 U.S.C. Sec. 1101 et seq.). CSTU is in the process of being approved to participate in State or Federal Student Aid programs.

8. EDUCATIONAL PROGRAMS OFFERED

Program Title	Credential Awarded
Master of Business Administration (MBA)	Master of Business Administration
Master of Science in Computer Systems and Engineering (MSCSE)	Master of Science
Bachelor of Science in Business Administration (BSBA)	Bachelor of Science in Business Administration
Bachelor of Science in Computer Systems and Engineering (BSCSE)	Bachelor of Science in Computer Systems and Engineering
Emerging Technology Training Program	Certificate of Completion

9. ADMISSIONS POLICIES

Interested applicants may contact CSTU by visiting the institution's main website or by phone. In response to an inquiry from a prospective student, an information package is normally sent to the individual. A prospective student is encouraged to call the school and make an appointment to discuss the program they are interested in and arrange to see the school's facilities.

An admission representative will discuss the applicant's qualifications and assist him/her in determining the best way to meet his/her educational and/or career goals. The application and enrollment process begin with the completion of general information and an initial interview with

the admissions representative if needed. The general information must include official transcripts of prior schools. The interview usually lasts approximately half an hour and may be conducted by phone or in person. During that time, the admissions representative will discuss the various aspects of the graduate program offered, tuition, a payment plan, and explain entrance requirements. This catalog detailing CSTU's method of instruction, programs, policies, admission standards, applicant's qualifications, and financial planning information will be provided. The institution's main website, www.cstu.edu, also provides the same information as published in this catalog.

When the applicant is accepted, a Degree Plan generally referred to as an Individual Academic Plan (IAP) will be prepared to list the academic requirements that must be met for the successful completion of the selected program.

Admission Requirements for Graduate Program

Admission to a master's degree program requires a bachelor's degree completed at an appropriately accredited postsecondary institution. The applicants should have a GPA of 2.5 or better. Working experience is very important in admission consideration.

GRE or GMAT test scores are not required, but students are welcome to submit the score for scholarship application.

The master's degree programs, including Master of Business Administration (MBA) and Master of Science in Computer Systems Engineering (MSCSE), require 30 graduate semester credits completed beyond the Bachelor's degree. CSTU will consider the credit transfer and may accept a maximum of 6 graduate semester credits in transfer toward a master's degree program, earned in graduate courses for which a grade of "B" or higher was earned.

Admission Requirements for Undergraduate Program

Admission to bachelor's degree programs, including Bachelor of Science in Business Administration (BSBA), and Bachelor of Science in Computer Systems and Engineering (BSCSE), requires a high school's diploma or AA degree completed at an appropriately accredited postsecondary institution.

Candidates applying for admission to the undergraduate program are required to provide the following documents:

Transcripts

A transcript from high school or secondary school is required. The overall grade point average (GPA), as well as specific subject grades, such as mathematics, sciences, and English, are key factors in determining admission to CSTU. The minimum GPA requirement is 2.0.

Standardized test scores
ACT, SAT, or equivalent standard test scores.

Advanced Placement (AP) or International Baccalaureate (IB) scores
Students must request scores from the testing agency and an official score report be sent to the Admission Office prior to the start of enrollment of the requested enrollment semester.

Current ID
A government-issued photo identification document (ID), i.e. driver's license, passport, permanent resident card, etc.

Proof of immunization for bacterial meningitis (if under 22 years of age)
Submit proof of bacterial meningitis vaccination, or an exemption prior to registration. The shot must have been received during the five years prior to enrollment.

Enrollment Confirmation Fee
Once a student is accepted to the CSTU, an enrollment confirmation deposit of $500.00 is required before new incoming freshman/transfer students can register for classes.

Admission Decisions are made on applications when they are complete, and applicants are notified promptly through the Office of Admission. The Office of Admission adheres to the CSTU acceptance criteria requirements. All students must submit all the required documents for acceptance.

CSTU does not have a minimum admission requirement on standardized test scores. The standardized test scores are for reference only. The standardized testing score will be considered for awarding scholarships.

The bachelor's degree programs require 120 semester credits. The graduate level courses can also be used toward the bachelor's degree if it is approved by CSTU's student advisor. CSTU will consider the credit transfer and may accept a maximum of 90 semester credits in transfer toward a bachelor's degree program, earned in accredited school for which a grade of "B" or higher was earned.

Admission Requirements for International Students

For international students, English proficiency is required. A TOELF score of 60 or any other English proficiency test with similar level is required. Additional information for English proficiency can be found on session INTERNATIONAL STUDENTS AND VERIFYING ENGLISH PROFICIENCY.

Applicants with an undergraduate degree at the baccalaureate level or associate level from a school outside the United States must have their undergraduate transcripts evaluated by an independent credential evaluation service agency. CSTU recommends using an agency that is approved by National Association of Credential Evaluation Services (NACES). The evaluation findings will be accepted as the satisfaction of the degree requirement when indicating that an applicant's degree is the equivalent of one received from a regionally or nationally accredited or approved college in the United States.

Credits Transfer Requirements

CSTU can accept credit transfer for undergraduate or graduate programs if the credits are earned a school that is appropriately accredited and the courses can meet our degree requirements. Appropriately accredited postsecondary institutions are defined as those accredited by an accrediting agency recognized by the United States Department of Education, or by an accrediting agency recognized by the Council for Higher Education Accreditation (CHEA) or, for non-United States institutions, an educational institution approved by an equivalent authority.

For the graduate program, up to 6 semester credits can be transferred if the course description matches the course requirements of our master's degree program requirements. The transfer student may need to provide materials such as school catalogs/bulletins, course descriptions, course outlines, class assignments, or textbooks to assure proper evaluation. A grade of "B" or higher is required for the credit transfer.

For the ungraduated program, credits earned at another institute of higher education and credits earned by examination may be transferred to CSTU and applied toward a undergraduate degree program. The transfer student may need to provide materials such as school catalogs/bulletins, course descriptions, course outlines, class assignments, or textbooks to assure proper evaluation. The final determination of the applicability of credit transferred toward a degree sought at CSTU is made by the chair of the student's major department. Transfer credits are counted in the calculation of credit hours attempted and credit hours earned toward successful course completion percentage and maximum time frame allowed. Students who wish to appeal that evaluation may by submitting an appeal form to the CAO who will make the final decision on the course evaluation.

CSTU accepts up to a maximum of 90 undergraduate transfer credits (including credit by examination) from a four (4) year college or university or a student can transfer a maximum of 66

credit hours from community colleges. Transferable coursework with grades of "C" or above may be accepted for transfer credit from other institutes of higher learning.

International university transcripts require a course-by-course evaluation through an approved credential evaluation agency if credit transfer is requested. CSTU recommended agencies which is a member of NACES, however, other US agencies are also acceptable. Please check with the admission office if you have any questions.

Credits by Examination

Students attending CSTU may receive college credit at any time based upon their scores on the Advanced Placement (AP), International Baccalaureate (IB), SAT Subject Tests, and College Level Examination Program (CLEP) tests. A maximum of 30 credit hours may be transferred by credit by examination.

Admissions Procedures

To apply for admission, the prospective student must complete the following:
1. Educational History:
Applicants must also submit their educational history as part of their application. The history must include names, locations, and colleges and/or universities' enrollment information.
2. Proof of Degree or Diploma Completion:
Applicants must present proof of their degrees and transcripts in one of the following formats.
(a) Official copies sent directly to CSTU from an official authority (Ministry of Education, the school itself, etc.); the copies must be received unopened.
(b) Photocopies of the original diploma and transcript approved by an official authority or by a notary.
(c) Original diploma and transcript. Diplomas and transcripts that are not in English need to be submitted together with an official translation. In certain cases, the Admissions Office may require an applicant to present additional documentation.

California Science and Technology University does not accept hours or credit earned through challenge examinations, achievement tests, or experiential learning.

California Science and Technology University does not admit ability-to-benefit students.

California Science and Technology University has not entered into any transfer or articulation agreements with any other college or university.

California Science and Technology University does not offer English as a Second Language instruction. All instruction occurs in English.

10. INTERNATIONAL STUDENTS AND VERIFYING ENGLISH PROFICIENCY

Applicants whose official language is not English and have not completed their studies at an accredited U.S. college or university must submit evidence of English proficiency through one of the following sources:

- Test of English as a Foreign Language (TOEFL) with a minimum score of 500 for paper-based, or 60 for iBT Internet-based, or 6.0 for IELTS Score, or 85 for Duolingo, or any other English test score that is comparable to the above scores.
- A transcript verifying completion of at least 30 semester hours of credit with an average grade of "C" or higher at an appropriately accredited college or university where the language of instruction was English, "B" or higher for a master's degree.
- A transcript verifying a grade of "C" or higher in an English composition course from an appropriately accredited/recognized college or university, "B" or higher for a master's degree.

Students who have completed their high school diploma at an US high school, or undergraduate degrees at a nationally or regionally accredited U.S. college or university, students who have been working in the United States for more than two (2) years, or who have studied at other universities for more than one (1) years are not required to submit an English testing score.

11. REVIEW OF DOCUMENTATION

Any document sent by an applicant in support of his or her application may be reviewed by relevant institutions, including the institution issuing the documentation and/or by an established foreign evaluation service that can establish degree comparability.

CSTU recommends to use evaluation agencies that are member of NACES, however, CSTU accepts evaluations from all other credible sources..

12. NOTICE CONCERNING TRANSFERABILITY OF CREDITS AND CREDENTIALS EARNED AT OUR INSTITUTION

The transferability of credits you earn at California Science and Technology University is at the complete discretion of an institution to which you may seek to transfer. Acceptance of the degree or certificate you earn in the educational program is also at the complete discretion of the institution to which you may seek to transfer. If the degree or certificate that you earn at this institution are

not accepted at the institution to which you seek to transfer, you may be required to repeat some or all of your coursework at that institution. For this reason, you should make certain that your attendance at this institution will meet your educational goals. This may include contacting an institution to which you may seek to transfer after attending California Science and Technology University to determine if your credits or certificate will transfer.

13. COMPLETING THE REQUIRED COURSES

Students are advised and individually guided through courses by direct contact with their professors. With assistance from their professors, students proceed from course to course in a steady, organized manner. This enables educational objectives to be achieved in the shortest possible time frame.

Upon enrolling in a course, the student receives a course syllabus and information about how to contact his/her professor assigned for that course. CSTU works with an online supplier to provide textbooks for students. Students are encouraged to use the services; however, textbooks may be purchased from local bookstores, from publishers, or from other suppliers.

The faculty and staff of CSTU are available to assist students in achieving their educational objectives. CSTU is especially sensitive to the special needs of adult students returning to college after a long absence from the classroom.

14. ATTENDANCE

A student is considered tardy if they are more than 15 minutes late for class. Students with excessive tardiness must meet with Student Services for advisement. Excessive tardiness is defined as the accumulation of six (6) or more tardies. Six (6) tardies equal one (1) absence.

Any absence (also known as a class cut) needs to be made up by watching the class recording video if it is available and read the class materials. Excessive absenteeism will be placed on attendance probation. Excessive absences are defined as absence from three (3) or more lectures without make-ups in a course. Students will be dismissed from the school if they are on attendance probation for two (2) consecutive courses unless they provide reasonable justification to the Department of Student Services.

Satisfactory attendance rate is defined as at least 67% attendance under Satisfactory Academic Progress standards and attendance ten (10) lectures in a three (3) unit course or five (5) lectures in an one point five (1.5) unit course.

15. LEAVE OF ABSENCE (LOA)

A leave of absence (LOA) is a temporary interruption of educational studies for a specified period of time. A leave of absence period may not exceed 180 days within any 12-month period. CSTU may grant more than one leave of absence in the event that unforeseen circumstances arise, such as medical reasons affecting the student or a member of the student's immediate family, military service requirements, or jury duty, provided that the combined leaves of absence do not exceed 180 days within the 12-month period.

If the student does not return following the leave of absence, CSTU will terminate the student and apply the refund policy in accordance with applicable and published requirements. All leave of absence requests must be submitted in writing and then approved by CSTU. Students must complete an LOA request form from the Student Services Office, sign & date it. The period of the leave of absence may not begin until the student has submitted and CSTU has approved a written and signed request for an approved leave of absence.

16. ACADEMIC POLICIES

Satisfactory Academic Progress

A student must maintain satisfactory academic progress (SAP) in order to remain in training. SAP is cumulative in that it includes all periods of attendance; and all periods of attendance are counted toward the maximum time frame allotted. SAP is applied to all students equally and measured weekly in all programs. In order to comply with the California Science and Technology University's satisfactory academic progress policy, the student must:

1. Be enrolled in a program of study with a valid enrollment agreement.
2. Complete his/her program within the maximum time allowed. The maximum time allowed is 150% of the published program length.
3. Maintain satisfactory attendance.

For a credit hour program, the credit hours attempted cannot exceed 1.5 times the credit hours required to complete the program. The school is not required to terminate the enrollment of a student who is unable to complete the program within the maximum time frame unless the school has determined that the student has failed to meet school policies that would otherwise warrant termination (e.g., academic progress or attendance policies). For the purposes of reporting student achievement, the school may not classify students who do not complete the program within the maximum time frame as graduates.

At CSTU all the students' grades and evaluations are based on demonstrated performance during each course and the level of academic knowledge gained during the course. The grading will

consist of letter grades of A through F with grade points as indicated in this catalog. Additional elements of essays, problems, projects and case studies will receive letter grades from the faculty based on the grading rubric established by the CSTU. Each course is based on a total of 100 maximum points.

Grade Point Average

A student's grade point average (GPA) is obtained by dividing the total number of points earned by the total credit hours attempted. Grades and symbols used to record academic progress are listed in the grading system table below. GPA is based on a maximum of 4.0. Grade points are assigned to all grades as follows:

Grade	GPA	Indicator
A+	4.00	Excellent
A	4.00	Excellent
A-	3.67	Excellent
B+	3.33	Above Average
B	3.00	Very Good
B-	2.67	Good
C+	2.33	Average
C	2.00	Satisfactory
C-	1.67	Need to Repeat
D+	1.33	Need to Repeat
D	1.00	Need to Repeat
D-	0.67	Need to Repeat
F	0	Need to Repeat
P	0	Pass
I	N/A	Incomplete

Grade	GPA	Indicator
T	N/A	Transfer Credit
W	N/A	Withdrawal

The grade points stated above will be used to calculate the GPA. Students must maintain a 3.0 cumulative GPA to be in good standing for graduate programs and 2.0 for undergraduate programs.

Latin Honors

The CSTU uses the Latin Honors Distinctions outlined below:

- 3.50 to 3.69 -Cum Laude – with honors
- 3.70 to 3.89 -Magna Cum Laude – with high honors
- 3.90 to 4.00 -Summa Cum Laude – with highest honors

Progress Reports

Updates to progress are made after each lecture, homework, midterm and final exam. Online progress reports are available for each program. Students can login into the school learning system, Campus Administration and Management System (CAMS), and monitor their academic progress, which will give a predicted final score on the course. The CSTU Chief Academic Officer will contact students if the system predicts the student will fail the course. Besides the progress report for each course, the satisfactory progress for a program will be evaluated at 25%, 50%, 75% and 100% time of the program. Students need to maintain an average GPA of B for graduate program and C for undergraduate program to meet SAP standards. Students not meeting SAP standards will meet with the Chief Academic Officer to establish a written plan for improvement.

Failure to Meet SAP Standards

The term is a grading period which is 8 weeks long. A semester has two terms. A student who is making unsatisfactory progress at the end of a term or at the program evaluation time will be placed on academic probation for the next term. If the student on academic probation achieves satisfactory progress for the subsequent term but has not achieved the required grades for overall satisfactory progress, the student may be continued on probation for one more term. If the student on probation fails to achieve satisfactory progress for the first probationary term, the student's enrollment will be terminated. If a student on probation fails to achieve satisfactory progress for the program at the end of two successive probationary terms, the student will be terminated. When a student is placed on academic probation, the student will be required to communicate with the Office of the Registrar prior to returning to class. The Office of the Registrar will inform the

student of the date, action taken, and terms of the probation. This information will be clearly indicated in the appropriate permanent student's record.

Academic Dismissal

Any student who fails to achieve overall satisfactory progress for the program at the end of two successive probationary terms will be suspended from enrollment.

Academic Suspension Reinstatement

A student whose enrollment is suspended for unsatisfactory progress may reapply for admission after a minimum of one term. A student who returns after enrollment was suspended for unsatisfactory progress will be placed on probation for the next term. The student will be advised of this action, and the student's file documented accordingly.

Academic Dismissal/Termination

If the student does not maintain satisfactory progress during or by the end of this final probationary period, then the student's enrollment will be terminated. Application of Standards: Satisfactory academic progress standards apply to all students and include all periods of the student's enrollment.

Appeals

Re-admission after termination for failing to meet SAP standards may be granted to an individual if a written appeal is made to the CSTU and the individual substantiates that mitigating circumstances were involved and corrective measures have been taken to prevent a recurrence. Appeals must be made within one month of the date of SAP notification.

Reinstatement

Students who have been dismissed for failure to maintain satisfactory academic progress may apply to be re-admitted after six (6) months. Such students may be re-admitted under a probation status. Such students can re-establish SAP good standing by successfully completing failed courses with a grade of "C" / 2.00 or better.

Students who are placed on Academic may apply to be reinstated as "active students." To change the status to active, students must submit a completed application for reinstatement along with a fee of $400.00. Additional tuition fees will apply to uncompleted coursework.

Transferred or Re-admitted Students' Maximum Time Frame

Transferred or re-admitted students will be allowed a maximum time frame of 150% of the portion of the program remaining at the point of re-entry.

Incomplete Grades

Students receiving, at the discretion of the faculty member, a grade of "I" will be evaluated according to the minimum standard for academic progress and will be re-evaluated at the end of the first two weeks of the following course during which time the student may complete missing work. Courses indicating an "I" at the end of the two-week period will become an "F" with a "0" added to the GPA.

A student who withdraws during the last quarter of his/her program will receive a grade of "incomplete" if the student requests the grade at the time of withdrawal and the student withdraws for an appropriate reason unrelated to the student's academic status. A student who receives a grade of incomplete may reenroll in the program during the 12-month period following the date the student withdraws and completes those incomplete subjects without payment of additional tuition.

Make-Up Work

Make-up work requirements are determined by instructors and may be described on the course syllabus. Any class absence can be made-up by watching class recording video.

Course Withdrawals

If a student withdraws prior to the midpoint in a course, the student receives a "W" and the GPA is not affected but will be counted as work attempted. The student who receives a "W" grade will have a 12-month period following the date the student withdraws to complete the course at no additional tuition.

Transfer Credits

Transfer of credit courses does not affect the GPA and are not calculated in SAP. They are reflected on the transcript as "T".

Repeating a Course

Students must repeat courses in which they have received an "F" grade or from which they withdraw. Students will be charged the regular tuition fees for each course they repeat in which they received an "F" grade. Students must earn a cumulative GPA of 3.0 or higher on a 4.0 scale for graduate study or a cumulative GPA of 2.5 on all courses that carry a graduate credit. At CSTU,

no grade below C is acceptable for credit toward a certificate or degree and if a student receives a grade below C in any course, that course must be repeated. The new grade will replace the old grade for grade point average calculation, but the old grade will remain in the transcript. For students who wish to improve their grade, the fee for repeating a course is the same as the regular tuition.

Remedial Work

Remedial work is neither provided nor required.

17. STUDENT SERVICES

Student Services furnishes information on public transportation, general costs in the area of childcare, and points of interest.

The Department of Student Services will oversee the management of the career placement services offered to students and graduates via the CSTU Online Service Center on the institution's website which shall always be accessible to students using their university password to log into the career placement services section of the school's website.

18. NON-ACADEMIC COUNSELING

The Department of Student Services offers assistance with personal and interpersonal issues such as relationships, cultural differences, assertiveness, and self-esteem. If a student needs a professional counselor, the Department of Student Services will help the student find a suitable counselor. Additionally, the Student Services Office helps students with educational/vocational concerns such as coping with university life, academic performance, test anxiety, reentry adjustment, and determining life goals. Students are encouraged to seek assistance from a counselor in dealing with any problems that might affect their success at CSTU.

19. STUDENT INTERACTION AND STUDY GROUPS

Group study will be incorporated when feasible. Students coming together, sharing ideas, and preparing is a delightful part of the college environment be it direct or virtual. Group study is a helpful way to re-enforce personal first-time study and expand the range of learning. Interaction will be the essence of the instructor's facilitative tasks.

20. LIBRARY SERVICES AND LEARNING RESOURCES

CSTU's on-site library is open during normal business hours, Monday-Saturday 9:30AM-5:30PM. Staff is available to assist students and faculty during this time. Students can check out textbooks, and other class materials from the on-site library.

The institution also provides its students with access to online library services via the Library and Information Resources Network (LIRN) Portal. This allows students to perform research on topics covered in each program. The school provides research databases that contain the most thorough and up-to-date research materials available. Students are encouraged not only to learn from classes but also to pursue independent research by using resources organized by the Director of Library Services. Students receive a 30 minute orientation to LIRN.

The Director of Library Services is available on-campus up to 40 hours per week and is on-call for at least 40 hours per week to provide assistance to students. Support is also provided via email inquiries within 10 hours of receipt. This individual is available to assist with resources for up to two (2) hours post lecture each day and by appointment.

Students may use their mobile device, or a computer anywhere to access LIRN.

All students are provided access to Gale resources, where the students can research for scholarly and peer reviewed journals, unlimited, full-text access to the entire Computer Science Collection, Computer and Information Systems Abstracts, Computer Science Journals, etc. The students are expected to fully utilize the Gale library database: Gale foundation, when addressing discussion questions, written assignments, course research projects (CRPs), and the capstone projects.

21. ACADEMIC ADVISING

Academic advising is an essential element of the educational process. Faculty members serve as academic advisors and counselors to the students.

Although online registration is available to students, they are welcome to meet with a faculty member before and during the course registration period each semester. During the meeting, the faculty member will examine the student's study plan, academic records, and choose suitable courses to enroll. Academic advising is also available to students throughout the school year. In addition to helping students plan course schedules, academic advisors may also encourage students to explore their academic options and personal goals in preparation for entering the professional world.

To ensure satisfactory progress of each student, the administrative staff including the Chief Academic Officer and the Director of Student Services maintain close contact with the faculty to monitor those students who may need extra help. Class attendance records, available online to the staff, are used as one input for student advising. The student is to be contacted for advising when either of the following occurs: (1) The staff is informed by any faculty member who is concerned about the student's performance in the class at any checkpoint during the semester, (2) the student has a poor attendance record, (3) the student is placed in academic-probation status. Student records will be maintained at the school site for five years from the last date of attendance. Transcripts are maintained permanently.

22. CAREER PLACEMENT SERVICES

CSTU does not guarantee employment to any student upon graduation. CSTU does provide all graduates with assistance regarding placement opportunities, resume preparation, job search assistance and interview advising and advising concerning job search and job interview techniques. Placement assistance is available to all graduates of the institution. Additionally, CSTU is required under California law to track placement of its graduates for a period of up to 6 months upon completion of their program and to verify placement 2 months after employment.

As a key component of Student Services, career placement services help the students in the following areas: (1) Prepare resumes and sharpen interview skills, (2) Conduct career seminars and job fairs, (3) Identify the students' strengths and interests and provide career advice, (4) Provide internship opportunities to the students, and (5) Provide library materials and an online tool for the students to gain access to various sources of job related information. The Student Services in collaboration with the library, provides the students with access to a collection of books, articles, magazines, and brochures about employment opportunities. Employment information can be found on the online job posting board through the eCareer Center on the CSTU Online Service Center site. The service provides career planning and job search assistance prior to and after students' graduation.

23. RETENTION OF STUDENT RECORDS

The records for students, including a transcript of academic progress, shall be kept in files maintained in cabinets or electronically in such a way that adequate information is maintained by the institution for a period of 5 years from the student's date of completion or withdrawal to show student advancement, grades, and that satisfactory standard are enforced relating to progress and performance. All student files are kept in the Department of Student Services office and electronic

copies in a secure server. A daily backup is made and stored “in the cloud” off-site by a professional provider with a secure file repository, backup, and recovery system.

CSTU is required to maintain student records for a minimum of 5 years while student transcripts will be maintained indefinitely and made immediately available during normal business hours, and for inspection by officials from the State of California Bureau of Private Postsecondary Education, or the State of California Attorney General's office showing the following:

- The names and addresses, both local and home, of each of its students;
- The courses of study offered by the institution;
- The names and addresses of its instructional staff, together with a record of the educational qualifications of each, and;
- The degrees or diplomas and honorary degrees and diplomas granted, the date of granting, together with the curricula upon which the diplomas and degrees were based.

24.TRANSCRIPTS

The CSTU will supply one official transcript upon graduation. Requests for additional transcripts must be made in writing and signed by the student. There is a $15.00 charge for each transcript requested. For transcripts mailed outside of the U.S., there is an additional shipping fee of $50.00. Students requesting the release of academic records and transcripts to employers or other groups or agencies must sign an authorization request and follow the procedures outlined in this section. In addition, students are informed that they may file complaints with the Family Educational Rights and Privacy Act Office of the United States Department of Education (FERPA) concerning alleged failures by the school to comply with the Family Rights and Privacy Act of 1974 (the 'Buckley amendment'), as amended, in relation to the procedures and decisions involved with any such matters.

25. STUDENT POLICIES AND PROCEDURES

The following paragraphs detail the standards of conduct that California Science and Technology University expects all of its members, students, staff, and faculty alike. Students are subject to disciplinary action, including suspension or dismissal from the academic program, for violations of the university’s policies regarding personal conduct.

26. ACADEMIC INTEGRITY POLICY

CSTU expects that all academic work submitted by students be original, or in the case of cited material, properly acknowledged as the work, ideas, or language of another. Further, all acts of academic dishonesty are strictly prohibited. These include, but are not limited to, cheating,

plagiarism, fabrication, unauthorized collaboration, misappropriation of resource material, or any other violation of university regulations.

27. SEXUAL HARASSMENT POLICY

Whether verbal or physical, in person or by telephone, sexual harassment is an act of aggression. It is a violation of federal law under (section 703 of the Civil Rights Act of 1964 and under Title IX Education Amendments of 1972). CSTU encourages students and employees to confront sexual harassment, to report incidents and/or to seek advice and assistance. CSTU has both a moral and legal obligation to investigate all complaints of sexual harassment and to pursue sanctions when warranted.

It is the policy of the university that all persons, regardless of their sex, should enjoy freedom from discrimination of any kind. "Sexual harassment" means any unwelcomed sexual advances, request for sexual favors, and other verbal, visual, or physical conduct of a sexual nature made by someone from or in the work or educational setting, under any of the following conditions:

- Submission to such conduct is made either explicitly or implicitly a term or condition of an individual's employment or status in a course, program, or activity.
- Submission to or rejection of such conduct is used as the basis for employment or educational decisions affecting that individual. Such conduct has the purpose or effect of unreasonably interfering with an individual's work performance or educational experience, or creates an intimidating, hostile, or offensive environment for working or learning.
- Such conduct has the purpose or effect of unreasonably interfering with an individual's academic performance, or of creating an intimidating, hostile, or offensive educational or working environment.

CSTU is committed to taking appropriate action against those who violate the policy prohibiting sexual harassment. CSTU is committed to protecting victims of harassment from retaliation.

28. DRUG AND ALCOHOL POLICY

The university recognizes the health risks associated with the use of illicit drugs and the abuse of alcohol and is committed to providing a drug-free educational environment and workplace. The university prohibits the unlawful manufacture, distribution, dispensation, possession, or use of any controlled substance and the abuse of alcohol by students and employees on university property or as part of any of its activities. Individuals found to be in violation or engaged in serious misconduct

are subject to legal sanctions under local, State, or Federal law, as well as any administrative sanctions that the university may impose.

CSTU complies with the Drug-Free School and Communities Act Amendments of 1989, Public Law 101-226, and the Drug- Free Workplace Act of 1988, Public Law 100-690. The university supports the purpose of this legislation and provides copies of the school policies governing drug and alcohol abuse to all employees and students.

29. COMPLAINT AND GRIEVANCE POLICY

From time to time, differences in interpretation of university policies will arise among students, faculty, and/or the administration. When such differences arise, we urge students and staff to communicate any problems that arise directly to the individual(s) involved. If the problem cannot be resolved in this manner, the university administration should be contacted. Normally, the informal procedure of discussing the difference will resolve the problem.

Any student who feels that he or she has been subjected to unfair treatment by the university by any of its employees, entities, policies, procedures or programs may report the matter in writing to the President for review and action. The President is located in the administrative location of CSTU and is open Monday through Friday 9:30 AM to 5:30 PM. On making the complaint, the student will be advised of the next step, depending on the nature of the complaint.

The first step would be to attempt to resolve the complaint informally. If the complaint is resolved satisfactorily to all parties concerned the case shall be closed, with a written notice to that effect sent to the complainant and the respondent. If no informal resolution is possible, and the student wishes to pursue the complaint, the grievance may be referred to the Bureau of Private Postsecondary Education (BPPE) State of California, P.O. Box 980818, W. Sacramento, CA, 95798- 0818, www.bppe.ca.gov, 916-431-6959, or ACCSC at 2101 Wilson Boulevard, Suite 302 Arlington, Virginia 2220.

30. ARBITRATION AT CSTU

Alternative Dispute Resolution: While no one expects disputes and conflicts, sometimes they do occur; and it is in the best interests of the parties to resolve the dispute in the simplest, fastest, and least expensive manner. Students at CSTU, therefore, agree to follow the three steps below:

Step One: Any and all disputes, conflicts, problems, controversies, or claims of any kind, without exception, arising from or connected to enrollment and attendance at the university ("dispute") should first be taken up with the President. If the dispute is not then resolved, a written statement should be made of each party's position and submitted to the Office of the President for a final decision. The parties may proceed to Step Two if the dispute is not resolved in Step One.

Step Two: The parties agree that any dispute should be resolved through mediation. Any such mediation will be held in the city in which the student resides. The parties agree to attend and make a sincere and good faith effort to resolve the dispute through this mediation.

Step Three: The parties agree that any dispute arising from enrollment, no matter how described, pleaded or styled, shall be resolved by binding arbitration under the substantive and procedural requirements of the Federal Arbitration Act conducted by the Better Business Bureau (BBB).

All determinations as to the scope, enforceability and effect of this arbitration agreement shall be decided by the arbitrator, and not by a court. The award rendered by the arbitrator may be entered in any court having jurisdiction.

I: Terms of Arbitration:

A. Both Student and the university irrevocably agree that any dispute between them shall be submitted to binding Arbitration.

B. Neither the Student nor the university shall file or maintain any lawsuit in any court against the other and agree that any suit filed in violation of this Agreement shall be dismissed by the court in favor of an arbitration conducted pursuant to this Agreement.

C. The costs of the arbitration fee, filing fee, arbitrator's compensation, and facilities fees will be paid by the university, to the extent these fees are greater than a district court filing fee.

D. The arbitrator's decision shall be set forth in writing and shall set forth the essential findings and conclusions upon which the decision is based.

E. Any remedy available from a court under the law shall be available in the arbitration.

II: Procedure for Filing Arbitration:

1. Students are strongly encouraged, but not required, to utilize the first two steps of the grievance procedure described above, prior to filing arbitration.

2. A student desiring to file arbitration should first contact the vice president of Student Affairs, who will provide the student with a copy of the BBB rules at no cost. A student desiring to file arbitration should then contact the BBB, which will provide the appropriate forms and detailed instructions. The student should bring this form to the BBB.

3. A student may, but need not to, be represented by an attorney at the Arbitration.

Acknowledgment of Waiver of Jury Trial and Availability BBB Rules: By signing the Enrollment Agreement, each party understands the nature of arbitration; that arbitration is final and binding, and each party is waiving certain rights, including, but not limited to, its right to litigate its dispute in court, including its right to a jury trial. Both parties understand that the award of the arbitrator will be binding and not merely advisory.

31. STUDENTS WITH DISABILITIES

The university complies with the Americans with Disabilities Act of 1990 and Section 504 of the Federal Rehabilitation Act of 1973. Accordingly, qualified persons with disabilities cannot, on the basis of disability, be denied admission or subjected to discrimination in admission decisions. Further, no qualified disabled student may be excluded from any academic, research, counseling, financial aid, or other post-secondary education program or activity that the university provides to all students on the basis of that student's disability.

32. STUDENT DISCIPLINE

Students are expected to conduct themselves in a responsible manner that reflects generally accepted moral standards, honor, and good citizenship. They are also expected to abide by the regulations of the university. It is the student's responsibility to maintain academic honesty and integrity and to manifest a commitment to the goals of the university through proper conduct and behavior. Any form of academic dishonesty, or inappropriate conduct by students or applicants, may result in penalties ranging from a warning to dismissal as deemed by CSTU. Any such disciplinary action will be taken following the procedures of due process. Due process mandates that students be given notice and an opportunity to be heard, that is, informed in writing of the nature of the charges against them and provided with an administrative hearing on the issues and provisions for appeal.

33. REASONS FOR PROBATION, SUSPENSION, AND DISMISSAL OF STUDENTS

Following the procedures consistent with due process, students may be placed on probation, suspended, dismissed, or given a lesser sanction for any of the following reasons:

Plagiarism

Plagiarism is the presentation of someone else's ideas or work as one's own. An obvious form of plagiarism is intentionally stealing someone else's work. Using another person's sentence, phrase, or even a word that a person coined requires students to acknowledge the source of the sentence,

phrase or coined word. To acknowledge the source, students can either use quotation marks or paraphrase the author. In both cases, students must cite the source of the quotation or paraphrased ideas properly.

Cheating or Other Academic Dishonesty

Any form of academic dishonesty reveals a serious lack of personal integrity and detracts from the quality of a student's education. As such, cheating is a violation of university policy because it diminishes the quality of student scholarship and defrauds those who rely on the integrity of the university's academic programs.

Academic dishonesty is considered to be any form of cheating or plagiarism (see above), or an attempt to obtain credit for academic work through fraudulent, deceptive or dishonest means. The following are examples of academic dishonesty, but are not intended to be inclusive:

- Using or attempting to use, unauthorized materials, information, or study aids in any academic exercise, such as copying from another student's test
- Submitting work previously presented in another course
- Using sources or materials not authorized by the instructor in an examination
- Altering grading materials
- Sitting for an examination by a surrogate or acting as a surrogate
- Conducting any act which defrauds the results of the academic process
- Violating software copyrights

A faculty member has two options to resolve issues of cheating or plagiarism. The first option is to take care of the matter himself or herself and the second option is to refer the matter to the university for appropriate Action.

When an instructor has adequate evidence of academic dishonesty on the part of a student, the instructor can take action against the student under the first option. Variables affecting the severity of student penalties include whether the dishonesty was premeditated, the extent of the dishonesty (one answer or an entire project), the relative importance of the academic exercise (e.g., quiz or final examination), and whether the dishonesty was active or passive. Specific penalties that are considered are:

- Review with no action
- Warning
- Requirement that the work be repeated
- Reduction of grade on specific work in question
- A failing grade for the work in question, or for the entire course
- Any other penalty appropriate under the circumstances

The guidelines for appropriate penalties include an oral reprimand in cases where there is a reasonable doubt that the student knew that the action constituted academic dishonesty, an "F" on the particular paper, project or examination when the act was not premeditated or there were significant mitigating circumstances or an "F" in the course where the dishonesty was premeditated or planned. The instructor will document and report his or her action to the Chief Academic Officer.

If the instructor utilizes the second option, he or she will notify the university of the type of academic dishonesty observed, provide a written statement regarding the matter, and provide the university with the names of all witnesses and all information and documentation necessary to prepare a disciplinary hearing or other appropriate action by the university. Any of the specific penalties and guidelines for appropriate penalties above may be considered by the university. In the case of repeated infractions by a student, the university may exercise the option of dismissal. Action by both the instructor and the university can be appealed through the appeal procedures set forth below.

34. NON-ACADEMIC REASONS FOR STUDENT DISCIPLINE

In addition to the reasons noted above, students may be disciplined for any of the following reasons:

- Forgery, altering university documents, or knowingly providing false information;
- Disruption of the educational or administrative process of the university, by acts or expression;
- Physical abuse or destruction of university property;
- Physical abuse or threat of abuse to students, university employees, or their families;
- Verbal abuse or intimidation of students or university employees including shouting, use of profanity or other displays of hostility;
- Theft of university property;
- Sale or knowing possession of illegal drugs or narcotics;
- Possession or use or threats of use of explosives or deadly weapons on university property;
- Lewd, indecent, or obscene behavior on university property or by telephone;
- Soliciting or assisting another in an act which would subject students to a serious university sanction;
- Any action which would grossly violate the purpose of the university or the rights of those who comprise the university;
- Any act, omission to act or conduct which would be considered a crime under federal/state/local law.

Disciplinary action may include probation, suspension, and dismissal from the university and/or notification to the Department of Homeland Security. Students suspected of committing any

violation of university policy are accorded procedures consistent with due process typically before disciplinary action is imposed. However, inappropriate students may be suspended prior to a due process hearing.

Any violation of university policy (including all forms of academic dishonesty) can result in a student being barred from graduate or professional schools at this or other universities. In addition, violating university policy can make a student ineligible for government commissions or other employment.

35. STUDENT RIGHTS

CSTU has adopted policies with regard to student rights and grievances that are maintained in the university's policy manuals. The university's policy seeks to treat all students with respect and fairness. All students may request access to or release of, at reasonable times, his or her education records as maintained by the university. Such a request must be in writing and addressed to the registrar. The written request must specify the records that the student desires to access or to be released, and to whom released. A student may request any special letters or copies of documents pertaining to his/her student file but must pay the cost of producing or reproducing such documents.

A student may request changes in his or her records. If, on proper showing of evidence, a material error in the record is proved, a change or correction will be made. The university has adopted a policy whereby all students have the right to appeal decisions of faculty and staff based upon university policy.

Any questions a student may have regarding this catalog that have not been satisfactorily answered by the institution may be directed to the Bureau for Private Postsecondary Education at 1747 N. Market Blvd, Suite 225, Sacramento, CA 95834 or P.O. Box 980818, West Sacramento, CA 95798- 0818, www.bppe.ca.gov, (888) 370-7589 or by fax (916) 263-1897.

A student or any member of the public may file a complaint about this institution with the Bureau for Private Postsecondary Education by calling (888) 370-7589 or by completing a complaint form, which can be obtained on the bureau's internet web site (www.bppe.ca.gov). A student can also contact ACCSC at 2101 Wilson Boulevard, Suite 302, Arlington, Virginia 22201, by phone: 703.247-4212, or by fax: 703.247.453, for any complaint. A complaint form is also available at ACCSC's website at www.accsc.org.

36. COURSE MATERIAL ISBN AND PURCHASING INFORMATION

CSTU does not have a student bookstore. Students are required to purchase textbooks required for their courses on the open market. In accordance with the current HEOA requirements, CSTU will provide the ISBN and retail price of our texts along with information on various purchasing options and buyback programs. The ISBN and price information are provided in the syllabus. Course materials can be purchased from any source, the CSTU website offers a convenient means of obtaining required course materials. CSTU cautions students about obtaining course materials from overseas sources because of the risk of delivery time and quality of the materials. Purchase decisions should not be based on the purchase price alone.

37.SCHEDULE OF CHARGES

Program of Study	Registration Non refundable	Tuition Refundable	STRF * Non Refundable	**Total Cost	***Tuition By Period of Attendance
Master of Business Administration (MBA)	$90.00	$21,000.00	$52.50	$21,142.50	$6,300.00
Master of Science in Computer Systems and Engineering (MSCSE)	$90.00	$21,000.00	$52.50	$21,142.50	$6,300.00
Emerging Technology Training Program (Certificate)	90.00	$8,400.00	$20.00	$8,510.00	$6,300.00
Bachelor of Science in Business Administration (BSBA)	$90.00	$18,000.00 /Year	$45	$18,045.00	$6,000.00
Bachelor of Science in Computer Systems and Engineering (BSCSE)	$90.00	$18,000.00 /Year	$45	$18,045.00	$6,000.00

*Since April 1, 2022, the *Student Tuition Recovery Fund (*STRF) fee has been changed from fifty cents ($0.50) per one thousand dollars ($1,000) of institutional charges to two dollars and fifty cents ($2.50) per one thousand dollars ($1,000) of institutional charges, rounded to the nearest thousand dollars, from each student in an educational program who is a California resident or is

enrolled in a residency program. For institutional charges of one thousand dollars ($1,000) or less, the assessment is zero dollars ($0).

Note: Authority cited: Sections 94877, 94923 and 94924, Education Code. Reference: Sections 94843, 94911(b), 94923 and 94924, Education Code.
**The estimated schedule of total charges for the entire educational program.
***The schedule of total charges for a period of attendance.

The cost per credit is $700.00 for graduate programs and $600 for undergraduate programs.

Students must purchase the textbook required for their course before class at the student's own cost. The estimated costs are as follows:

- Master of Business Administration (MBA): $500.00
- Master of Science in Computer Systems and Engineering (MSCSE): $500.00
- Bachelor of Science in Business Administration (BSBA): $1000.00
- Bachelor of Science in Computer Systems and Engineering (BSCSE): $1000.00
- Emerging Technology Training Program (Certificate): $200.00

38. ADDITIONAL FEES

The following fees and charges are costs that students may incur beyond the basic tuition cost for specific degree programs. Fees are charged when services are rendered.

International Transcripts Evaluation Fee	$150.00
Student Transfer Out Fee	$250.00
Late Registration Fee	$50.00
Master Level Graduation Fee	$250.00
Additional Transcript Fee	$15.00
Change of Program Fee	$50.00
Leave of Absence Fee	$50.00
Returned Check Fee	$50.00
Student Activity Fee	$40.00

Return Check and Credit Card Declines Policy

Students are responsible for all fees relating to checks returned from the bank due to nonpayment. The CSTU charges a fee of $50.00 for any returned check or credit card declined.

39. STUDENT TUITION RECOVERY FUND

The State of California established the Student Tuition Recovery Fund (STRF) to relieve or mitigate economic loss suffered by a student in an educational program at a qualifying institution, who is or was a California resident while enrolled, or was enrolled in a residency program, if the student enrolled in the institution, prepaid tuition, and suffered an economic loss. Unless relieved of the obligation to do so, you must pay the state-imposed assessment for the STRF, or it must be paid on your behalf, if you are a student in an educational program, who is a California resident, or are enrolled in a residency program, and prepay all or part of your tuition.

You are not eligible for protection from the STRF and you are not required to pay the STRF assessment, if you are not a California resident, or are not enrolled in a residency program.

It is important that you keep copies of your enrollment agreement, financial aid documents, receipts, or any other information that documents the amount paid to the school. Questions regarding the STRF may be directed to the Bureau for Private Postsecondary Education, 1747 N. Market Blvd, Suite 225, Sacramento, CA 95834, (916) 431-6959 or (888) 370-7589.

To be eligible for STRF, you must be a California resident or enrolled in a residency program, prepaid tuition, paid or deemed to have paid the STRF assessment, and suffered an economic loss as a result of any of the following:

1. The institution, a location of the institution, or an educational program offered by the institution was closed or discontinued, and you did not choose to participate in a teach-out plan approved by the Bureau or did not complete a chosen teach-out plan approved by the Bureau.
2. You were enrolled at an institution or a location of the institution within the 120 day period before the closure of the institution or location of the institution or were enrolled in an educational program within the 120 day period before the program was discontinued.
3. You were enrolled at an institution or a location of the institution more than 120 days before the closure of the institution or location of the institution, in an educational program offered by the institution as to which the Bureau determined there was a significant decline in the quality or value of the program more than 120 days before closure.
4. The institution has been ordered to pay a refund by the Bureau but has failed to do so.
5. The institution has failed to pay or reimburse loan proceeds under a federal student loan program as required by law or has failed to pay or reimburse proceeds received by the institution in excess of tuition and other costs.
6. You have been awarded restitution, a refund, or other monetary award by an arbitrator or court, based on a violation of this chapter by an institution or representative of an institution, but have been unable to collect the award from the institution.
7. You sought legal counsel that resulted in the cancellation of one or more of your student loans and have an invoice for services rendered and evidence of the cancellation of the student loan or loans.

To qualify for STRF reimbursement, the application must be received within four (4) years from the date of the action or event that made the student eligible for recovery from STRF.

A student whose loan is revived by a loan holder or debt collector after a period of non-collection may, at any time, file a written application for recovery from STRF for the debt that would have otherwise been eligible for recovery. If it has been more than four (4) years since the action or event that made the student eligible, the student must have filed a written application for recovery within the original four (4) year period, unless the period has been extended by another act of law. However, no claim can be paid to any student without a social security number or a taxpayer identification number.

40. CANCELLATION AND REFUND POLICY

STUDENT'S RIGHT TO CANCEL

1. You have the right to cancel your agreement for a program of instruction, without any penalty or obligations, through attendance at the first class session or the seventh calendar day after enrollment, whichever is later. Applicants who have not visited the school prior to enrollment will have the opportunity to withdraw without penalty within three business days following either the regularly scheduled orientation procedures or following a tour of the school facilities and inspection of equipment where training and services are provided. After the end of the cancellation period, you also have the right to stop school at any time; and you have the right to receive a pro rata refund if you have completed 60 percent or less of the scheduled days in the current payment period in your program through the last day of attendance.
2. Cancellation may occur when the student provides a written notice of cancellation at the following address: 1601 McCarthy Boulevard, Milpitas, CA 95035
3. This can be done by mail or by hand delivery.
3. The written notice of cancellation, if sent by mail, is effective when deposited in the mail properly addressed with proper postage.
4. The written notice of cancellation need not take any particular form and, however expressed, it is effective if it shows that the student no longer wishes to be bound by the Enrollment Agreement.
5. If the Enrollment Agreement is canceled after attendance of the second class session or the seventh calendar day after enrollment, whichever is later, the school will refund the student any money he/she paid, less a registration fee, and less any deduction for equipment not returned in good condition, within 35 days after the notice of cancellation is received.

WITHDRAWAL FROM THE PROGRAM

The institutional refund policy for students who have completed 60 percent or less of the course of instruction shall be a pro rata refund. After the end of the cancellation period, you have a right to terminate your studies at this school at any time, and you have the right to receive a refund for the part of the course or program you have paid for and did not receive. You have the right to withdraw from the course of instruction at any time. If you withdraw from the course of instruction after the period allowed for cancellation, the school will remit a refund, less a registration fee $90.00, within 35 days following your withdrawal. You are obligated to pay only for educational services rendered and for unreturned books or equipment.

If you obtain books or equipment, as specified in the enrollment agreement and return them in good condition within 30 days following the date of their withdrawal, the school shall refund the charge for the books or equipment paid by you. If you fail to return books or equipment in good condition within the 30 day period, the school may offset against the refund the documented cost for books or equipment exceeding the prorated refund amount.

You may withdraw from the school at any time after the cancellation period (described above) and receive a pro rata refund if you have completed 60 percent or less of the scheduled days in the current payment period in your program through the last day of attendance. The refund will be less a registration fee, and less any deduction for equipment not returned in good condition, within 35 days of withdrawal. If the student has completed more than 60% of the period of attendance for which the student was charged, the tuition is considered earned and the student will receive no refund.

For the purpose of determining a refund under this section, a student shall be deemed to have withdrawn from a program of instruction when any of the following occurs:

- The student notifies the institution of the student's withdrawal or as of the date of the student's withdrawal, whichever is later.
- The institution terminates the student's enrollment for failure to maintain satisfactory progress; failure to abide by the rules and regulations of the institution; absences in excess of maximum set forth by the institution; and/or failure to meet financial obligations to the school.
- The student fails to return from a leave of absence.

For the purpose of determining the amount of the refund, the date of the student's withdrawal shall be deemed the last date of recorded attendance. The amount owed equals the daily charge for the program (total institutional charge, minus non-refundable fees, divided by the number of days in the program), multiplied by the number of days scheduled to attend, prior to withdrawal.

If the student has completed more than 60% of the period of attendance for which the student was charged, the tuition is considered earned and the student will receive no refund.

If any portion of the tuition was paid from the proceeds of a loan or third party, the refund shall be sent to the lender, third party or, if appropriate, to the state or federal agency that guaranteed or reinsured the loan. Any amount of the refund in excess of the unpaid balance of the loan shall be first used to repay any student financial aid programs from which the student received benefits, in proportion to the amount of the benefits received, and any remaining amount shall be paid to the student. If the student has received federal student financial aid funds, the student is entitled to a refund of tuition not paid from federal student financial aid program funds.

41. TUITION PAYMENT METHODS

California Science and Technology University is in the process of participating in federal and state financial aid programs. CSTU accepts payment for tuition, books, equipment and other fees through cash payment, Zelle, PayPal, or personal or third-party checks. Payment in full is required prior to beginning each course.

Students assume the responsibility for payment of the tuition costs in full, either through direct payment or through a third party financial plan. All financial arrangements must be made before the beginning of each course.

42. EDUCATIONAL PROGRAMS

Program Name	Credit Hours	Normal Completion Time
Master of Business Administration (MBA)	30	24 months
Master of Science in Computer Systems and Engineering (MSCSE)	30	24 months
Bachelor of Science in Business Administration (BSBA)	120	52 months
Bachelor of Science in Computer Systems and Engineering (BSCSE)	120	52 Months
Emerging Technology Training Program (Certificate)	12	8 months

43. CREDIT HOUR DEFINITION

California Science and Technology University measures its programs in semester credit hours. A credit hour is defined as an amount of work represented in intended learning outcomes and verified

by evidence of student achievement for academic activities as established by the institution comprising the following units: didactic learning environment; supervised laboratory setting of instruction; externship; and/or out-of-class work/preparation. A clock hour is defined as 50 minutes of instruction in a 60-minute period of time. Generally, a clock hour begins at the top of the hour and ends at the fifty-minute mark.

One semester credit hour equals 45 units comprised of the following academic activities:

- One clock hour in a didactic learning environment = 2 units
- One clock hour in a supervised laboratory setting of instruction = 1.5 units
- One hour of externship = 1 unit
- One hour of out-of-class work and/or preparation for the didactic learning environment or supervised laboratory setting of instruction that are designed to measure the student's achieved competency relative to the required subject matter objectives = 0.5 unit

44.Bachelor of Science in Business Administration (BSBA)

The goal of the Bachelor of Science in Business Administration (BSBA) program is to equip individuals with the skills and knowledge necessary to excel in the global business sector. This program focuses not only on a thorough understanding of the core subjects but also on comprehending relevant research methods and methodologies. Such a focus is designed to enhance the student's capacity to synthesize and effectively utilize their knowledge in professional settings.

The Minor

The University encourages students to complete a minor, that is, a defined program of study in a discipline other than the student's major. A minor must be at least 18 core credit hours. Students should maintain at least a 2.00 GPA in their minor courses.
The Bachelor of Science in Business Administration program provides training that inspires students to be well-prepared for a changing business environment by building a solid foundation and understanding of business practices with global and ethical perspectives.

Goals of the BSBA Program

The goals of the Bachelor of Science in Business Administration are to enable students to

- Gain business knowledge and problem-solving skills.
- Enhance collaboration skills and business communication skills.
- Explore global, ethical, and business information systems topics.

- Be able to conduct a quantitative and qualitative analysis of the business data and make a good decision with the business decision model.

Student Learning Outcomes of the BSBA Program

Graduates of the program will

- Acquire knowledge about and understanding of fundamental theories in business.
- Analyze business problems, formulate relevant solutions, and assess possible outcomes.
- Demonstrate efficient oral and written business communication skills.
- Demonstrate ability to make reasoned ethical and legal judgments related to the business profession.
- Develop effective team-working skills.
- Demonstrate knowledge of business information systems and integrate it into business problem-solving.
- Acquire knowledge about and understanding of fundamental theories in the concentration area and apply them to contemporary business environments.

Upon completion of the study, graduates may obtain jobs in marketing analysis, data processing, financial analysis, etc. The following is a list of job classifications the BSBA program prepares graduates for using the United States Department of Labor's Standard.

- 15-1199.08 - Business Intelligence Analysts
- 11-2021.00 - Marketing Managers
- 15-1199.10 - Search Marketing Strategists
- 13-1111.00 - Management Analysts
- 13-1161.00 - Market Research Analysts and Marketing Specialists
- 15-2031.00 - Operations Research Analysts
- 13-2099.01 - Financial Quantitative Analysts
- 11-2022.00 - Sales Managers
- 43-4051.00 - Customer Service Representatives

Degree Requirements for Bachelor of Science in Business Administration Program

For a Bachelor of Science degree in Business Administration, students must complete 120 semester credit hours: 36 credits of general education courses, 60 credits of core courses, and 24 credits of elective courses. The graduate level courses can also be used toward the bachelor's degree for core course or optional course requirement if it is approved by CSTU's student advisor. The Bachelor of Science in Business Administration program focuses on two areas of business specialization: Finance and Management. The course requirements for the BSBA program are listed below:

General Education (choose 36 units 3 credits per course)

- GE 100 American Literature
- GE 110 U.S. History
- GE 130 U.S. Government
- GE 140 College Algebra
- GE 150 Calculus
- GE 160 Composition and Rhetoric
- GE 200 Principles of Macroeconomics
- GE 210 General Psychology
- GE 220 General Sociology
- GE 230 General Philosophy
- GE 300 Professional Communication
- GE 310 Statistics and Applications
- GE 320 Logic and critical thinking

Core Courses for Financial and Management (60 units, 3 credits per course)

- BA 300 Management Information Systems
- BA 302 Business Ethics
- BA 304 Business Law
- BA 306 Business Finance
- BA 308 Management and Organizational Behavior
- BA 310 Principles of Marketing
- BA 320 Product Design
- BA 330 Principles of Microeconomics
- BA 400 Financial Accounting
- BA 401 Managerial Accounting
- BA 402 Financial Markets and Institutions
- BA 404 Investments
- BA 406 Financial Analysis and Valuation
- BA 408 International Finance
- BA 410 Financial Management
- BA 420 Small Business Management
- BA 422 Leadership in Organizations
- BA 424 Human Resource Management
- BA 426 Project Management
- BA 428 Global Supply Chain Management

Elective Courses (choose 24 units from below or any other courses offered in CSTU except GE courses)

- BA 430 AI for business
- BA 442 Business Analytics
- BA 444 Business Intelligence
- BA 446 Digital Marketing
- BA 490 Special topics (3 credits)
- BA 491 Seminars
- BA 499 Internship

Minor in Business Administration Requirements

A Minor in Business Administration can be earned in conjunction with any major at CSTU. To earn a Minor in Business Administration, students must complete 6 BSBA core courses with a GPA of 2.0 and above.

Graduation Requirements

To graduate from the Bachelor of Science in Business Administration program, students must complete a minimum total of 120 credit hours with the following requirements:

Complete the required coursework in the following categories:

GE Course Requirements

Core Course Requirements

Elective Course Requirements

And fulfill the following requirements:

- Maintain a grade of C- or better for all courses taken to clear deficiencies or towards the degree requirements,
- Maintain an overall GPA of 2.5 or better,
- Maintain good standing with the university – with clear financial, library, and other school records,
- File a petition for graduation.

45. Bachelor of Science in Computer Systems and Engineering (BSCSE)

The Computer Systems and Engineering program strives for quality in teaching and research by covering the fundamentals as well as applied aspects of computer science while enabling students with technological problem-solving skills, collaborative activities, and consideration of ethical issues. The program focuses on full-stack development, Cloud Computing, and Security.

Goals of the BSCSE Program

The goals of the Bachelor of Science in Computer Systems Engineering program are to:

- Prepare students for entry to mid-level employment opportunities.
- Develop strong oral and written communication skills.
- Provide a clear understanding of ethical issues related to the computing profession.
- Prepare students for the upcoming AI technical revolution.

Student Learning Outcomes of the BSCSE Program

Graduates of the program will:

- Apply knowledge of computing and mathematics appropriate to computer science.
- Recognize the ethical, legal, security, and social implications of computing.
- Demonstrate communication skills to convey technical information accurately and effectively.
- Recognize the need for continuous professional and educational development.
- Develop and design software solutions using design methodologies, data structures, and programming languages.
- Acquire current skills in computer networks.
- Knowledge of designing a website.
- Understand the technical trend in Artificial Intelligence and Machine Learning.

Upon completion of the study, graduates may gain entry-level employment or higher-level positions that may include such position titles as software engineer, data analyst, data engineer, machine learning engineer and artificial intelligence engineer. The following is a list of job classifications the BSCSE program prepares the graduates for using the United States Department of Labor's Standard.

- 15-1132.00 - Software Developers, Applications
- 15-1152.00 - Computer Network Support Specialists
- 41-9031.00 - Sales Engineers
- 15-1131.00 - Computer Programmers
- 15-1199.01 - Software Quality Assurance Engineers and Testers
- 15-1134.00 - Web Developers
- 15-1111.00 - Computer and Information Research Scientists
- 15-1199.07 - Data Warehousing Specialists

Degree Requirements of the BSCSE Program

For a Bachelor of Science degree in Computer Systems and Engineering, students must complete 120 semester credit hours: 36 semester credit hours in general education courses, 60 semester credit hours in computer systems and engineering core courses, and 24 semester credits in elective courses. The graduate level courses can also be used toward the bachelor's degree for core course or optional course requirement if it is approved by CSTU's student advisor.

General Education (choose 36 units)

- GE 100 American Literature
- GE 110 U.S. History
- GE 130 U.S. Government
- GE 140 College Algebra
- GE 150 Calculus
- GE 160 Composition and Rhetoric
- GE 200 Principles of Macroeconomics
- GE 210 General Psychology (3 credits)
- GE 220 General Sociology (3 credits)
- GE 230 General Philosophy (3 credits)
- GE 300 Professional Communication (3 credits)
- GE 310 Statistics and Applications (3 credits)
- GE 320 Logic and critical thinking (3 credits)

Core Courses (60 units)

- BSCSE 200 Introduction to Computer Science (3 credits)
- BSCSE 210 Software Engineering (3 credits)
- BSCSE 300 Computer Organization (3 credits)
- BSCSE 302 Discrete Mathematics (3 credits)
- BSCSE 304 Programming Languages (3 credits)
- BSCSE 310 Algorithms and Data Structures (3 credits)
- BSCSE 312 Computer Networks (3 credits)
- BSCSE 314 Software Analysis and Test (3 credits)
- BSCSE 400 Database Systems
- BSCSE 402 Operating Systems
- BSCSE 404 Web Application Development
- BSCSE 408 Mobile app development
- BSCSE 420 Network Security
- BSCSE 422 Cloud Computing
- BSCSE 426 DevOps
- BSCSE 428 Artificial Intelligence and Applications
- BSCSE 430 Machine Learning
- BSCSE 432 Deep Learning
- BSCSE 434 Natural Language Processing
- BSCSE 438 Human Computer Interaction

Elective Courses (choose 24 units from below or any other courses offered in CSTU except GE courses)

- BSCSE 440 Digital integrated circuit design
- BSCSE 450 Computer Graphics
- BSCSE 470 AI with GPT
- BSCSE 480 AI with reinforcement learning

- BACSE 490 Special Topics
- BSCSE 491 Seminars
- BSCSE 499 Internship

Minor in Computer Systems and Engineering Requirements

A Minor in Computer Systems and Engineering can be earned in conjunction with any major at CSTU. Students should complete 6 core BSCSE courses with a GPA 2.0 and above to earn a minor in Computer Systems and Engineering.

Graduation Requirements

To graduate from the Bachelor of Science in Computer Systems and Engineering, students must complete a minimum total of 120 credit hours with the following requirements:

Complete the required coursework in the following categories:

GE Course Requirements

Core Course Requirements

Elective Course Requirements

And fulfill the following requirements:

- Maintain a grade of C- or better for all courses taken to clear deficiencies or towards the degree requirements,
- Maintain an overall GPA of 2.5 or better,
- Maintain good standing with the University – with clear financial, library, and other school records,
- File a petition for graduation.

46. MASTER OF BUSINESS ADMINISTRATION (MBA)

The objective of the master's degree programs is to provide advanced training to those who wish to practice their profession with increased competence in the global business industries. The program emphasizes both mastery of the subject matter and an understanding of related research and research methodology. This emphasis implies the development of the student's ability to integrate and apply the subject matter.

Program Length: 24 months
Semester Credit Hours (Credits): 30
Program Objectives:

✓ Students will demonstrate an understanding of business knowledge (principles, concepts, theories, perspectives) and skills (procedures, methods, strategies, approaches) for each

business function/discipline, and of the interrelationships among business functions/disciplines.

- ✓ Students will demonstrate the capacity to identify problems, define objectives, gather and analyze information, evaluate risks and alternatives, make decisions that are ethical and responsible, and communicate clearly defensible ideas and plans. The decisions need to be based on the available data and data analysis, especially, based on the latest business analytics skills.
- ✓ Students will demonstrate the capacity to acquire information, and technologies of the high-tech industries, especially Artificial Intelligence and Data Science, so that they can make good planning based on the trend in technologies and leveraging on the data science to make better decisions.
- ✓ Students will demonstrate the capacity to work effectively and communicate with others as a colleague and as a manager.
- ✓ Students will demonstrate the capacity for continual self-managed learning for professional and career development.

A minimum of 30 semester credit hours of graduate study are required for the MBA program. The MBA curriculum includes coursework in the following categories: Core Requirements, Electives, and a Capstone Course.

Upon clearing background preparation work, students start to take courses to meet the degree requirements, beginning with the Core Requirements courses.

Upon completion of the study, graduates may obtain jobs in marketing analysis, data processing, financial analysis, etc. The following is a list of job classifications the MBA program prepares graduates for using the United States Department of Labor's Standard.

- 15-1199.08 - Business Intelligence Analysts
- 11-2021.00 - Marketing Managers
- 15-1199.10 - Search Marketing Strategists
- 13-1111.00 - Management Analysts
- 13-1161.00 - Market Research Analysts and Marketing Specialists
- 15-2031.00 - Operations Research Analysts
- 13-2099.01 - Financial Quantitative Analysts
- 11-3021.00 - Computer and Information Systems Managers
- 11-2022.00 - Sales Managers
- 43-4051.00 - Customer Service Representatives
- 11-1011.00 - Chief Executives

Core Requirements (21 credits)

The following required courses provide a knowledge base of interdisciplinary business theories and techniques for the students who would like to pursue a career in business management with the concentration in Data Science. The students can select courses total of 24 credits from the following list to fulfill the core requirements.

- MB500 Financial Management
- MB530 Statistics for data analysis
- MB550 Project Management
- MB554 Leadership
- MB558 Financial Accounting and Analysis
- MB560 Marketing Management
- MB562 Digital Marketing
- MB572 Organizational Behavior
- MB580 Business Analytics and Strategy
- MB590 Special Topics
- MB591 Seminars
- MB592 Organizational Leadership
- MB593 Digital Transformation
- MB594 Effective Business Communication
- MB600 Python for AI
- MB602 Practical User Experience
- MB604 Machine Learning Fundamental
- MB606 AI for Business
- MB610 Cloud Computing and Security
- MB614 Practical Project Management
- MB616 Business Analytics
- MB620 Deep Learning with PyTorch
- MB624 Practical Digital Marketing
- MB626 Data visualization for Machine Learning
- MB628 Machine Learning for NLP
- MB630 Data Engineering with SQL and NoSQL
- MB632 Introduction to Cloud Computing
- MB634 Practical Organizational Behavior
- MB636 DevOps
- MB638 Deep Learning with TensorFlow
- MB640 Data Collection and Multivariate Analysis
- MB642 Generative Artificial Intelligence
- MB644 Business Ethics
- MB646 A Practical Course on AI for Industrial Application
- MB648 ChatGPT application
- MB650 Marketing Management

- MB652 Prompt Engineering
- MB654 Investment Management
- MB656 Financial Management

Electives (6 credits)

The students may elect any graduate-level courses to meet the electives requirement. The following are additional options for the elective courses:
Curricular Practical Training (CPT): When applicable, the student may take curricular practicum courses and engage in practical training to work on company projects that are directly related to the student's course of study. The student must observe the rules required for taking the practicum courses. No more than 6 credits of practicum coursework may be counted towards graduation. Part-time CPT is 1 credit, and full-time CPT is 2 credits. Part-time CPT together with 9 concurrent credits, or full-time CPT together with 6 concurrent course credits are considered full-time study. Each 1 credit of a practicum course requires at least 45 hours of practical experience related to the student's program curriculum.

MB598 Business Administration Internship

Capstone Course (3 credits) (A required subject)

Students are required to start the capstone project as early as possible and under the guidance of the school adviser, integrate the knowledge and skills learned from the courses taken during the program.

MB599 Business Administration Capstone

Graduation Requirements

The Master of Business Administration degree program requires a minimum of 30 credits of graduate-level courses. The MBA degree program requires coursework in the following categories:

1. Core Requirements,
2. Electives, and
3. A Capstone Course.

The following are required for graduation:

- Maintain a grade of C- or better for all courses taken to clear deficiencies or towards the degree requirements,
- Maintain an overall G.P.A. of 3.0 or better,
- Maintain good standing with the university – with clear financial, library, and other school records,
- The student is approved to graduate after filing a petition for graduation.

47. MASTER OF SCIENCE IN COMPUTER SYSTEMS AND ENGINEERING (MSCSE)

The MSCSE program is designed for students who intend to become professional engineers in the high-technology industry, as well as for those who desire a modern, general education based on the problems and the promises of a technological society. CSTU offers a friendly atmosphere and a variety of academic programs that have made CSTU engineering graduates highly valued in high-tech firms in the Silicon Valley.

Program Length: 24 months
Semester Credit Hours (Credits): 30
Program Objectives:

- ✓ To provide each student the education by tailoring each student's study plan based on the student's background and interests.
- ✓ To provide in-depth professional training in the latest technologies.
- ✓ To provide relevant laboratory experience throughout each program as an integral part of the education.
- ✓ To nurture a learning environment which leads to professional values recognizing high quality and integrity in a true engineer.
- ✓ To provide graduate students an opportunity to pursue advanced training and professional development to practice their profession with increased competence.

A minimum of 30 semester credits of graduate study are required for the Master of Science in Computer Systems and Engineering program (MSCSE). They include a few required core courses, a number of elective courses based on the student's selection of technical pursuit, and a required capstone course. The computer systems engineering coursework will develop technical skills beneficial to the student for career planning. The student also has the opportunity to take elective courses outside of computer systems engineering to broaden the student's skillset. Upon clearing background preparation work, the student starts to take courses to meet the degree requirements. The student must begin his/her graduate study with the subjects listed in the Core Course section. Graduates may gain entry-level employment or higher-level positions that may include such position titles as software engineer, data analyst, data engineer, machine learning engineer and artificial intelligence engineer. The following is a list of job classifications the MSCSE program prepares the graduates for using the United States Department of Labor's Standard.

- 15-1132.00 - Software Developers, Applications
- 15-1152.00 - Computer Network Support Specialists
- 41-9031.00 - Sales Engineers
- 15-1131.00 - Computer Programmers

- 15-1199.01 - Software Quality Assurance Engineers and Testers
- 15-1134.00 - Web Developers
- 15-1111.00 - Computer and Information Research Scientists
- 15-1199.07 - Data Warehousing Specialists

Core Requirements (21 credits)

- CSE520 Advanced Operating System
- CSE540 Advanced Data Structure and Algorithms
- CSE550 Advanced Java Programming for Internet Application
- CSE552 Full Stack Development
- CSE554 Internet and Network Security
- CSE556 Database System
- CSE558 Machine Learning
- CSE572 Artificial Intelligence application using TensorFlow
- CSE574 Deep Learning
- CSE590 Special Topics
- CSE591 Seminars
- CSE600 Python for AI
- CSE604 Machine Learning Fundamental
- CSE606 AI Application with GAN
- CSE608 AI Application with Reinforcement Learning
- CSE610 Cloud Computing and Security
- CSE612 AI Application in Computer Vision
- CSE618 Algorithm in Python
- CSE620 Deep Learning with PyTorch
- CSE622 Big Data Analytics with Apache Spark
- CSE624 Network Security
- CSE628 Machine Learning for NLP
- CSE630 Data Engineering with SQL and NoSQL
- CSE632 Introduction to Cloud Computing
- CSE636 DevOps
- CSE638 Deep Learning with TensorFlow
- CSE642 Generative artificial intelligence
- CSE644 Cloud Management
- CSE646 A Practical Course on AI for Industrial Application
- CSE648 ChatGPT application
- CSE650 Digital Integrated Circuit Design using FPGA
- CSE652 Prompt Engineering

Electives (6 credits)

The student may take any graduate-level courses to meet the requirements of elective courses, including those outside of computer engineering. When applicable, the student may take Curricular Practicum courses and engage in practical training to work on company projects that are directly related to the student's course of study. No more than 6 credits of practicum coursework may be counted towards graduation. Part-time CPT is 1 credit and full-time CPT is 2 credits. Part-time CPT together with concurrent 9 course credits and full-time CPT together with 6 concurrent course credits are considered full-time study. Each 1 credit of a practicum course requires at least 45 hours of practical experience related to the student's program curriculum.

CSE598 Computer Systems Engineering Internship

Capstone Course CSE599 (3 credits) (A required subject)

Students are required to start the capstone project as early as possible and under the guidance of the school adviser, integrate the knowledge and skills learned from the courses taken during the program.

CSE599 Computer Systems Engineering Capstone

Graduation Requirements

The Master of Science in Computer Systems and Engineering (MSCSE) degree program requires a minimum of 30 credits of graduate-level courses. The MSCSE degree program requires coursework in the following categories:

1. Core Requirements,
2. Electives, and
3. A Capstone Course.

The following are required for graduation:

- A graduate student admitted with undergraduate deficiencies must clear the deficiencies in the early terms. The student may clear a subject by either taking the course and earning a passing grade or passing a proficiency exam on the subject,
- Maintain a grade of C- or better for all courses taken to clear deficiencies or towards the degree requirements,
- Maintain an overall G.P.A. of 3.0 or better,
- Maintain good standing with the university – with a clear financial, library, and other school records,
- The student is approved to graduate after filing a petition for graduation.

Students received a master's degree upon successful completion of the program.

48. EMERGING TECHNOLOGY TRAINING PROGRAM

The emerging technology training program is designed for students who have some professional experience in the high-tech industry. CSTU offers a friendly atmosphere and a variety of training programs that provide the training for the technologies needed for high-tech firms in Silicon Valley, especially the latest cutting-edge technologies, hence students can keep up with the advance of the fast-growing high-tech industry.

Program Length: 8 months
Semester Credit Hours (credits): 12
Program Objectives:

- ✓ To provide each student the education by tailoring each student's study plan based on the student's background and interests.
- ✓ To provide in-depth professional training with current industrial learning resources to the student.
- ✓ To provide relevant laboratory experience throughout each program as an integral part of the education.
- ✓ To nurture a learning environment that leads to professional values recognizing high quality and integrity in a true engineer.
- ✓ To provide students an opportunity to pursue advanced training and professional development to practice their profession with increased competence.

The Emerging Technology Training Program requires students to take 12 credits of graduate-level courses from either the MBA program or the MSCSE program.

The coursework will lead graduates to obtain jobs in the field that requires them to apply data analysis or artificial intelligence skills to their jobs. The following is a list of job classifications the Emerging Technology Training program prepares the graduates for using the United States Department of Labor's Standard.

- 11-9199.00 - Managers, All Other
- 15-1133.00 - Software Developers, Systems Software
- 11-2022.00 - Sales Managers
- 41-9031.00 - Sales Engineers
- 15-1199.08 - Business Intelligence Analysts
- 17-2199.00 - Engineers, All Other
- 11-9199.00 - Managers, All Other
- 15-1152.00 - Computer Network Support Specialists
- 15-1132.00 - Software Developers, Applications
- 15-1134.00 - Web Developers

- 13-2099.01 - Financial Quantitative Analysts
- 15-1111.00 - Computer and Information Research Scientists
- 15-1199.07 - Data Warehousing Specialists
- 15-1199.10 - Search Marketing Strategists
- 15-1131.00 - Computer Programmers
- 27-3042.00 - Technical Writers
- 15-1199.08 - Business Intelligence Analysts
- 13-1161.00 - Market Research Analysts and Marketing Specialists
- 11-2021.00 - Marketing Managers
- 13-1111.00 - Management Analysts
- 43-4051.00 - Customer Service Representatives
- 15-2031.00 - Operations Research Analysts
- 11-1011.00 - Chief Executives
- 15-1199.01 - Software Quality Assurance Engineers and Testers

Graduation Requirements

The number of credits required for the Emerging Technology Training Program is 12 credits. A Certificate of Completion will be awarded to students after completing the program. California Science and Technology University does not have a cumulative final test or examination required for the completion of any of its programs.

49. COURSE DESCRIPTIONS

General Education

GE 100 American Literature (3 credits)

American Literature explores the rich and diverse literary traditions of the United States. Through the study of various literary works, this course provides students with an understanding of the major themes, styles, and historical contexts that have shaped American literature. Throughout the course, students will engage with a wide range of literary genres, including novels, short stories, poems, and essays, written by prominent American authors from different time periods. They will analyze these texts to gain insights into the social, cultural, and political dynamics that have influenced American society and its literary expression.

Prerequisite: None

GE 110 U.S. History (3 credits)

U.S. History offers an in-depth exploration of the history, events, and ideas that have shaped the United States from its colonial beginnings to the present day. Through the study of primary and secondary sources, historical texts, and engaging discussions, this course provides students with a comprehensive understanding of the political, social, economic, and cultural developments that have influenced the nation's trajectory. The course covers major themes and periods in U.S. history, highlighting key events, influential figures, and significant movements that have shaped the American experience.

Prerequisite: None

GE 130 U.S. Government (3 credits)

U.S. Government is a comprehensive course that explores the foundations, principles, institutions, and processes of the United States government. Through the study of political theories, historical contexts, and contemporary issues, this course provides students with a solid understanding of the structure and functions of the U.S. government and the rights and responsibilities of its citizens. The course covers a wide range of topics related to U.S. government and politics.

Prerequisite: None

GE 140 College Algebra (3 credits)

College Algebra is a fundamental course that provides students with a comprehensive understanding of algebraic concepts and techniques. This course is designed to develop students' mathematical skills and reasoning abilities, providing them with a strong foundation for further studies in mathematics, science, and related fields. The course covers a range of topics in algebra, focusing on the fundamental principles and applications of algebraic equations, functions, and graphs. It aims to enhance students' problem-solving abilities, critical thinking, and mathematical literacy.

Prerequisite: None

GE 150 Calculus (3 credits)

Calculus is an introductory course that explores the fundamental concepts and techniques of calculus. This course is designed to develop students' mathematical thinking, problem-solving skills, and analytical abilities, providing them with a solid foundation for further studies in mathematics, science, engineering, and related fields. The course covers the core topics of differential and integral calculus, focusing on functions, limits, derivatives, and integrals. It aims to deepen students' understanding of mathematical modeling, rates of change, and the fundamental principles that underpin calculus.

Prerequisite: None

GE 160 Composition and Rhetoric (3 credits)

Composition and Rhetoric is a foundational course that focuses on developing students' skills in critical thinking, effective communication, and persuasive writing. This course emphasizes the principles of rhetoric and composition, equipping students with the tools to express their ideas clearly, coherently, and persuasively in both written and oral forms. The course covers a range of topics related to composition and rhetoric, aiming to enhance students' abilities to analyze texts, construct arguments, and communicate effectively in various contexts.

Prerequisite: None

GE 200 Principles of Macroeconomics (3 credits)

Principles of Macroeconomics is an introductory course that provides students with a comprehensive understanding of the principles and concepts of macroeconomics. This course focuses on the study of the economy as a whole, including the factors influencing economic growth, inflation, unemployment, and government policies. The course covers a wide range of topics in macroeconomics, aiming to develop students' analytical skills in understanding the functioning of national economies and the global economic system.

Prerequisite: None

GE 210 General Psychology (3 credits)

General Psychology is an introductory course that provides students with a comprehensive overview of the field of psychology. This course explores the fundamental theories, concepts, and research methods in psychology, offering students a broad understanding of human behavior and mental processes. The course covers a wide range of topics in psychology, aiming to develop students' knowledge of psychological principles, and an appreciation for the diversity of human behavior.

Prerequisite: None

GE 220 General Sociology (3 credits)

General Sociology explores the fundamental principles and theories of sociology. This course provides students with a comprehensive understanding of human society, social interactions, and social institutions. It examines the dynamics of social behavior, social structures, and the impact of social factors on individuals and groups. The course covers a wide range of topics in sociology, aiming to develop students' sociological imagination and an appreciation for the social complexities of the world.

Prerequisite: None

GE 230 General Philosophy (3 credits)

General Philosophy explores the fundamental concepts, theories, and methods of philosophy. This course provides students with a broad understanding of philosophical inquiry and encourages critical thinking and analysis of fundamental questions about existence, knowledge, morality, and the nature of reality. The course aims to develop students' ability to engage in philosophical reasoning, evaluate arguments, and appreciate different philosophical perspectives.

Prerequisite: None

GE 300 Professional Communication (3 credits)

This course trains students on the essential skills and techniques for communicating in a professional environment. Skills that are focused on include business etiquette and professionalism, written communication, verbal communication, interpersonal communication, navigating cultural differences, and communicating through technology. Students will learn how to effectively communicate with reports, emails, presentations, and memos, as well as articulate creative arguments in a business context.

Prerequisite: None

GE 310 Statistics and Applications (3 credits)

This course covers statistical concepts and their applications in data science. The course will be structured around the following topics: Statistics, Exploratory data analysis, Statistical inference, Regression analysis, Model selection and validation, Time series analysis, and Bayesian statistics.

Throughout the course, students will gain practical experience in statistics through hands-on programming assignments using popular statistical libraries such as NumPy, pandas, and Scikit-learn in Python. By the end of the course, students will have a solid understanding of statistical concepts and be able to apply statistical techniques to analyze and interpret data in a variety of real-world problems.

Prerequisite: None

GE 320 Logic and critical thinking (3 credits)

This course aims to develop students' skills in logical and critical thinking. It will introduce students to various types of reasoning, including deductive and inductive reasoning, as well as fallacies of reasoning. Students will learn how to identify and evaluate arguments, and distinguish between good and bad reasoning. They will also learn how to construct valid and sound arguments and identify common logical fallacies. The course will be delivered through a combination of lectures, group discussions, and exercises. Students will be expected to engage in independent

reading and research to enhance their understanding of the topics covered. By the end of the course, students will have developed a solid foundation in logical and critical thinking and will be able to apply these skills to real-world situations.

Prerequisite: None

Core Courses for Financial and Management (60 credits)

BA 300 Management Information Systems (3 credits)

This course examines how modern businesses and organizations use information systems and technologies to streamline day-to-day operations and support decision making. Topics relevant to management information systems include business process analysis and modeling, data management systems, IT infrastructure and hardware, the information system development life cycle, and data security and privacy. Students will study existing applications of information systems through case-studies, and learn how to develop new solutions to support organizational objectives.

Prerequisite: None

BA 302 Business Ethics (3 credits)

This course explores the impact of ethical considerations and principles in guiding the decision-making and governance of business organizations. Through extensive case studies and classroom discussion, the course will demonstrate the importance of ethical behaviors and responsible decision making for the long-term success of organizations and their stakeholders. Topics include corporate social responsibility, employee rights, whistleblowing and corporate governance, conflicts of interest and stakeholder theory, advertising and information disclosure, and government regulations.

Prerequisite: None

BA 304 Business Law (3 credits)

Business Law introduces the legal principles and regulations that govern business activities. This course examines the legal framework within which businesses operate and the implications of legal issues on business decision-making. The course covers a variety of topics related to business law, aiming to develop students' understanding of legal concepts and their application to real-world business scenarios.

Prerequisite: None

BA 306 Business Finance (3 credits)

Business Finance is a course that focuses on the principles and practices of financial management in a business context. This course provides students with an understanding of financial decision-making and the tools and techniques used in managing the financial aspects of a business. The course covers a range of topics related to business finance, aiming to develop students' ability to analyze financial data, make informed financial decisions, and effectively manage financial resources.

Prerequisite: None

BA 308 Management and Organizational Behavior (3 credits)

Overview of how understanding the actions and behaviors of people within organizations can enable effective management and leadership. The course analyzes individual qualities such as personality, values, and emotions, pitfalls with perception, attitude, and decision-making, and tactics for power, influence, and persuasion. The course will also cover structural aspects of organizations, including motivation, job design, organizational culture, leadership, change, and contemporary topics like remote work.

Prerequisite: None

BA 310 Principles of Marketing (3 credits)

This course teaches the basics of the theories and practices that enable effective marketing in a modern business environment. Considers the planning, implementation, and evaluation of marketing efforts in a wide variety of different types of businesses, including consumer and business-to-business companies, service-based and product-based companies, and in for-profit and nonprofit organizations. Students will apply their knowledge in a term-project to demonstrate their mastery of the core concepts.

Prerequisite: None

BA 320 Product Design (3 credits)

This course covers the principles, methods, and tools used to design and develop products that meet user needs and business goals. The course covers the following topics: User-centered design and design thinking, ideation and conceptualization of product ideas, Product design principles and best practices, Design research and user testing, Prototyping and iteration, Business and sustainability considerations in product design.

Prerequisite: None

BA 330 Principles of Microeconomics (3 credits)

This course introduces principles of economic principles and concepts that apply to individual decision-making and functioning of markets. Topics covered include supply and demand, price elasticity, consumer behavior, factor markets, market failures, and international trade. Students should be able to understand underlying microeconomic theories related to the functioning of markets, and apply these concepts to real-world situations in order to make informed economic decisions.

Prerequisite: None

BA 400 Financial Accounting (3 credits)

This course covers the principles and concepts of financial accounting. The field of financial accounting involves recording, summarizing, and reporting transactions and other economic activities of a business to regulatory authorities and the general public. The course will cover topics such as the accounting cycle, the four basic financial statements, revenue and expense recognition, and financial statement analysis. By the end of this course, students will know how to handle assets, liabilities, equities, revenues, and expenses in accounting.

Prerequisite: None

BA 401 Managerial Accounting (3 credits)

Managerial Accounting is a course that focuses on the use of accounting information for internal decision-making and planning within an organization. This course provides students with an understanding of managerial accounting concepts, techniques, and tools used by managers to support business operations and strategic decision-making. The course covers a variety of topics related to managerial accounting, aiming to develop students' ability to analyze and interpret accounting information for effective managerial decision-making.

Prerequisite: BA 400

BA 402 Financial Markets and Institutions (3 credits)

This course presents an in-depth understanding of the workings of financial markets and institutions. The scope of this course covers asset and liability management, intermediaries, stocks and bonds, derivatives, mortgages, and foreign exchange. The course will also take a deeper look at the structure and function of money markets and capital markets, and specific financial institutions involved such as banks, insurance companies, and funds. Activities such as case studies, group projects, and simulations may be used to help students better grasp the skills needed to effectively analyze these course concepts.

Prerequisite: None

BA 404 Investments (3 credits)

This course educates students on investment theory and core concepts relevant to selecting assets and securities. Students will be taught different kinds of investment vehicles, portfolio management strategies, and risk management techniques. The course also exposes students to qualitative concepts such as market efficiency, intrinsic value, and risk. Students may be tasked with maintaining a virtual portfolio to put these theories into practice and to provide a concrete understanding of how investment theory can be applied.

Prerequisite: None

BA 406 Financial Analysis and Valuation (3 credits)

This course goes in depth in analyzing the financial state of a corporation. This course extends on accounting with a thorough look at the key financial statements, explaining financial ratios and metrics, evaluating financial performance and risk, understanding different methods of valuations, and using these concepts to develop financial analysis and valuations of real-world firms. Students will also exercise effective communication skills to present their findings to others.

Prerequisite: None

BA 410 Financial Management (3 credits)

Financial Management focuses on the principles and techniques used in managing the financial resources of a business organization. This course provides students with an understanding of financial management concepts and practices to make informed financial decisions that maximize shareholder wealth. The course covers a wide range of topics related to financial management, aiming to develop students' ability to analyze financial data, evaluate investment opportunities, manage risk, and make strategic financial decisions.

Prerequisite: None

BA 420 Small Business Management (3 credits)

This course examines the economic and social environment in which small businesses function, and the critical role of entrepreneurship in fostering business growth and development. Topics include facts about going into business, conducting a feasibility study, financing a business, essential management skills, marketing strategies and legal issues.

Prerequisite: None

BA 422 Leadership in Organizations (3 credits)

This course provides students with in-depth knowledge on the various leadership theories and insight into effective leadership practices. Topics include management versus leadership, traits and characteristics of leaders, leadership attitudes and styles, situational leadership theories, power and influence, and motivation and coaching skills for leaders.

Prerequisite: None

BA 424 Human Resource Management (3 credits)

This course is designed to introduce the field of Human Resource Management and focuses on theories, principles, and practices of Human Resources Management (HRM) in organizations. Topics include human resource management functions such as recruitment, selection, training, performance management, motivation, communication, legal environment, benefits and compensation.

Prerequisite: None

BA 426 Project Management (3 credits)

This course covers the tools and techniques required for project management. Topics include project selection, project planning, budgeting, scheduling, resource allocation, project control, project crashing, and project termination and tools such as work breakdown structures, network diagrams, and performance measurement. Students will also acquire soft skills to become effective project managers and apply both soft and technical skills in real projects.

Prerequisite: None

BA 428 Global Supply Chain Management (3 credits)

Global Supply Chain Management is a course that focuses on the management of global supply chains and logistics operations in a dynamic and interconnected business environment. This course provides students with an understanding of the strategic, operational, and tactical aspects of managing supply chains on a global scale. The course covers a variety of topics related to global supply chain management, aiming to develop students' ability to analyze supply chain systems, design efficient logistics networks, and effectively manage global supply chain operations.

Prerequisite: None

Elective Courses

BA 430 AI for business (3 credits)

AI (Artificial Intelligence) is transforming the way businesses operate, providing new opportunities to improve processes, decision-making, and customer experiences. This course will

cover the key concepts, techniques, and tools used in AI for business. Topics covered in the course include Machine learning, Natural language processing (NLP), Predictive Analytics, Robotic process automation (RPA), AI ethics, and bias. Throughout the course, students read materials related to AI and business and used some tools like Python or Excel to implement the concepts and techniques covered in class. By the end of the course, students should be able to identify opportunities for using AI in a business context, design and implement AI solutions, and evaluate the impact of AI on business performance.

Prerequisite: None

BA 442 Business Analytics (3 credits)

Business analytics is the practice of using data to derive insights and make informed decisions in business settings. This course covers the key concepts, techniques, and tools used in business analytics. Topics covered in the course may include: Descriptive analytics, Predictive analytics, Prescriptive analytics, Data collection and preparation, Data analysis and interpretation.

Throughout the course, students will work with real-world data sets and use software tools like Excel, Python, and Tableau to implement the concepts and techniques covered in class. By the end of the course, students should be able to use data analytics to make informed business decisions and communicate their findings to stakeholders.

Prerequisite: Python

BA 444 Business Intelligence (3 credits)

Business intelligence (BI) is a technology-driven process for analyzing data and presenting actionable information to help organizations make data-driven decisions. This course covers the key concepts, tools, and techniques used in business intelligence. Topics covered in the course include: Data warehousing, Data Extract, Transform, Load (ETL), Data modeling, Online analytical processing (OLAP), Dashboards and reporting, Data mining, Data quality and governance.

Throughout the course, students will work with real-world data sets and use software tools like SQL, Microsoft Power BI, and Tableau to implement the concepts and techniques covered in class. By the end of the course, students should be able to design and implement a business intelligence solution that supports data-driven decision-making in an organization.

Prerequisite: Python

BA 446 Digital Marketing (3 credits)

This course covers the key concepts, techniques, and tools used in digital marketing. Topics covered in the course include: Search engine optimization (SEO), Pay-per-click (PPC) advertising, Social media marketing, Email marketing, Content marketing, Web analytics, Conversion rate optimization (CRO).

Throughout the course, students will work on real-world digital marketing projects and use software tools like Google Ads, Google Analytics, and social media advertising platforms to implement the concepts and techniques covered in class. By the end of the course, students should be able to design and execute a digital marketing campaign that drives traffic, engages with customers, and achieves business objectives.

Prerequisites: None

BA 490 Special Topics (0.5 - 1.5 credits)

Special topics courses include courses that address a current or timely topic, that are in a "pilot" phase before being offered on an ongoing basis, or that are known to be one-time offerings. Special topics course offerings can vary from term to term. Each special topic course should add the keyword on the course title to identify the course content.

BA 491 Seminars (1.5 – 3.0 credits)

This course is meant to give students opportunities to explore topics in broad areas. Students will participate in a series of presentations. The presenters will come from other schools, industries, our faculty, and other students. The topics may be any aspect of the latest technologies or an approach that is interesting to students. Students can take up to two seminar courses. In this course, students will participate in activities that will develop their broad skills and knowledge, also they will have opportunities to explore a special topic in depth.

BA 499 Internship (1-3 credits)

A business administration internship is an opportunity for students to gain practical experience in a business environment and apply the concepts and theories they have learned in the classroom. The internship may focus on a specific functional area of business administration, such as marketing, finance, human resources, or operations. The internship could be conducting market research and analysis to support business decision-making, assisting with the development and implementation of marketing campaigns and strategies, supporting financial management activities, assisting with the planning and execution of operational processes and procedures, and providing administrative support to various departments.

No more than 3 credits of practicum coursework may be counted towards graduation. Part-time internship is 1 credit, and full-time internship is 2 credits. Part-time internship together with 9 concurrent credits, or full-time internship together with 6 concurrent course credits are considered as full-time study. Each 1 credit of a practicum course requires at least 45 hours of practical experience related to the student's program curriculum.

Prerequisites: Approval by program advisor

Bachelor of Science in Computer Systems Engineering

200 Introduction to Computer Science (3 credits)

This course is a foundational course that provides students with a comprehensive introduction to the fundamental concepts and principles of computer science. This course aims to develop students' understanding of the basic components of computer systems, programming concepts, problem-solving techniques, and the impact of computing in society. The course covers a wide range of topics in computer science, providing students with a solid foundation for further study and exploration in the field.

Prerequisite: None

CSE 210 Software Engineering (3 credits)

Software Engineering is a course that focuses on the principles, techniques, and practices used in the systematic development of high-quality software systems. This course provides students with a comprehensive understanding of the software engineering process, including requirements analysis, design, implementation, testing, and maintenance. The course covers a variety of topics related to software engineering, aiming to develop students' skills in designing, developing, and managing software projects effectively.

Prerequisite: None

CSE 300 Computer Organization (3 credits)

This course covers the concepts, theories, and techniques involved in the design and implementation of computer systems, including hardware and software components, and their interaction with each other.

Instruction set architectures, memory systems, input/output systems, input and output, and computer arithmetic will be included in the course. Students will learn about the different types of computer architectures and how they are designed and implemented. This includes single-processor systems, multi-processor systems, and parallel computing systems.

Prerequisite: None

CSE 302 Discrete Mathematics (3 credits)

This course introduces concepts of mathematics and mathematical reasoning and provides an in-depth study about discrete concepts such as finite sets and structures, and their properties and applications. Topics include, but are not restricted to principles of counting, combinatorics, logic, sets, relations, functions, induction and other methods of proof, recursion, and graph theory.

Prerequisite: None

CSE 304 Programming Languages (3 credits)

This course covers the history of programming languages. It illustrates programming language concepts such as syntax, semantics scoping, binding, data types and implementation, pattern matching, data control, storage management, parameter passing, and operating environment. The course also covers the paradigms of imperative, functional, logic-based, and object-oriented programming languages.

Prerequisite: BSCE300

CSE 310 Algorithms and Data Structures (3 credits)

This course covers the principles, techniques, and tools used to design and analyze algorithms and data structures. The course covers the following topics: Algorithm analysis and complexity theory, Sorting and searching algorithms, Graph algorithms, Dynamic programming, Greedy algorithms, Divide and conquer algorithms, Data structures such as arrays, linked lists, trees, graphs, and hash tables.

The course includes both lectures and hands-on programming assignments that allow students to apply the concepts and techniques learned in the course. Students are expected to have some programming skills and knowledge of basic computer science concepts such as programming paradigms, data types, and control structures.

By the end of the course, students should be able to design, analyze, and implement efficient algorithms and data structures that can solve a variety of computational problems. The course also emphasizes the importance of algorithmic thinking, problem-solving, and creativity in computer science and software engineering.

Prerequisites: BCSE 304

CSE 312 Computer Networks (3 credits)

This course covers the concepts and principles of modern computer networks with an emphasis on protocols, architectures, and implementation issues of application, transport, network, data link and physical layers.

Prerequisite: None

CSE 314 Software Analysis and Test (3 credits)

This course covers software analysis and testing, including the principles, methodologies, and tools used to ensure the quality and reliability of software systems. The course covers the following topics: Software quality assurance and quality control, Software testing methodologies and strategies, Test plan development and test case design, Unit testing, integration testing, and system testing, Performance testing and load testing, Test automation and testing tools, Formal verification and validation techniques.

Prerequisite: None

CSE 400 Database Systems (3 credits)

This course covers database system design, including relational and other data models, database design, data description and query languages, file organization, index structures, database integrity and security, access control, interfacing with database systems, transaction programming, and design and implementation of database applications.

Prerequisite: None

CSE 402 Operating Systems (3 credits)

This course focuses on operating system structure and design techniques; process management, CPU and disk scheduling; process synchronization, concurrency, and memory and file management, device management, virtual memory; mass storage and I/O systems; and OS security.

Prerequisite: CSE 300

CSE 404 Web Application Development (3 credits)

This course covers Web Application development: markup languages, layout design, client and server-side programming using HTML, XHTML, XML, Ajax, JavaScript, DHTML; database integration, React, Vue, jQuery, Swift, security, and e-commerce. Programming languages and tools will be among the most significant such as Java, servlets, JavaServer Pages, Active Server Pages, .NET, XML, Python, and Node.js for backend work.

Prerequisite: None

CSE 408 Mobile app development (3 credits)

This course covers the principles, techniques, and tools used to design and build mobile applications for iOS and Android devices. The course covers the following topics: mobile app development and mobile platforms, User interface design and development, Data management and storage for mobile devices, Working with sensors, location services, and other mobile device features, Mobile app security and privacy, Testing, debugging, and deployment of mobile applications, Cross-platform development using frameworks such as React Native and Xamarin.

Prerequisite: None

CSE 420 Network Security (3 credits)

This course covers the principles, methods, and tools used to secure computer networks and data from cyber attacks. The course covers the following topics: Network security and cybersecurity, Network security protocols and standards, Network security threats and vulnerabilities, Network security policy and risk management, Firewalls, intrusion detection, and prevention systems, Virtual private networks (VPNs) and secure remote access, Cryptography and encryption, Security for wireless networks and mobile devices, Ethical hacking and penetration testing.

Prerequisite: None

CSE 422 Cloud Computing (3 credits)

This course covers the principles, methods, and tools used to design, implement, and manage cloud-based systems and services. The course covers the following topics: Cloud computing and cloud services, Cloud service models, Cloud deployment models, Cloud architecture and design patterns, Cloud security and privacy, Cloud service management and orchestration.

By the end of the course, students should be able to design and implement cloud-based systems and services that meet business requirements and technical constraints, and have a good understanding of the principles and best practices of cloud computing.

Prerequisites: None

CSE 426 DevOps (3 credits)

This course covers the principles, methods, and tools used to improve the collaboration and communication between software development teams and IT operations teams. The course covers the following topics: DevOps and its benefits, Continuous Integration (CI) and Continuous Delivery/Deployment (CD), Configuration Management (CM) and Infrastructure as Code (IaC), Virtualization and containerization technologies, Cloud Computing and Microservices architecture, Monitoring and Logging for DevOps. We will use DevOps tools: Jenkins, Docker, Kubernetes, etc.

Prerequisites: None

CSE 428 Artificial Intelligence and Applications (3 credits)

This course covers the principles, techniques, and applications of artificial intelligence. The course covers the following topics: AI and its subfields, Knowledge representation and reasoning, Search algorithms and game playing, Machine learning and data mining, Natural language processing, Computer vision and image processing, Robotics and autonomous agents, Ethical and societal implications of AI.

Prerequisite: None

CSE 430 Machine Learning (3 credits)

This course covers the principles, methods, and tools used in Machine Learning. The course covers the following topics: Machine Learning and its applications, Supervised Learning: Regression, Classification, Decision Trees, Random Forest, and Gradient Boosting; unsupervised Learning: Clustering, Dimensionality Reduction, and Association Rules. Model Evaluation and Selection: Cross-Validation, Bias-Variance Tradeoff, and Ensemble Learning, Feature Engineering and Data Preparation. We will use machine learning libraries and tools: such as Scikit-learn, Pandas, etc.

Prerequisites: CSE 304 Programming Languages

CSE 432 Deep Learning (3 credits)

This course provides an in-depth study of the principles, methods, and tools used in Deep Learning. The course covers the following topics: Deep Learning and its applications, Artificial Neural Networks, Convolutional Neural Network, Recurrent Neural Network, Optimization Methods, such as Gradient Descent, Stochastic Gradient Descent, Adam, and Adagrad, Regularization Techniques, Deep Learning Frameworks with TensorFlow or PyTorch.

By the end of the course, students should be able to design, develop, and apply Deep Learning models to solve complex problems in various domains, such as computer vision, speech recognition, and autonomous driving.

Prerequisite: CSE 304 Programming Languages

CSE 434 Natural Language Processing (3 credits)

This course will provide a comprehensive introduction to NLP, covering the key concepts, methods, and applications of NLP. The course will be structured around the following topics: NLP, language modeling, text classification, named entity recognition, sentiment analysis, machine translation.

Throughout the course, students will gain practical experience in NLP through hands-on programming assignments using Python and popular NLP libraries such as NLTK and spaCy. By the end of the course, students will have a solid understanding of the fundamentals of NLP and be able to apply NLP techniques to a variety of real-world problems.

Prerequisite: CSE 304 Programming Languages

CSE 438 Human Computer Interaction (3 credits)

Human-Computer Interaction is a course that explores the design, evaluation, and usability of interactive computer systems from a user-centered perspective. This course focuses on understanding the interaction between humans and computers and emphasizes the importance of creating user-friendly and efficient interfaces. The course covers a variety of topics related to human-computer interaction (HCI), aiming to develop students' understanding of the principles and techniques used in designing intuitive and effective user interfaces.

Prerequisite: CSE 304 Programming Languages

Elective Courses

CSE 440 Digital integrated circuit design (3 credits)

This course covers the design and implementation of digital circuits using integrated circuit technology. The course will be structured around the following topics: Digital circuits, Combinational logic design, Sequential logic design, Verilog HDL, Digital circuit simulation.

Throughout the course, students will gain practical experience in digital circuit design through hands-on laboratory assignments, where they will use software tools such as Cadence and Verilog to design and simulate digital circuits. By the end of the course, students will have a solid understanding of digital integrated circuit design.

Prerequisite: CSE 304 Programming Languages

CSE 450 Computer Graphics (3 credits)

Computer Graphics is a course that focuses on the principles and techniques used in creating and manipulating digital images and visual content. This course explores the fundamentals of computer graphics, including 2D and 3D graphics rendering, modeling, and animation. The course covers a variety of topics related to computer graphics, aiming to develop students' understanding of the underlying algorithms and concepts used in generating and displaying visual content.

Prerequisite: CSE 304 Programming Languages

CSE 470 AI with GPT (3 credits)

AI with GPT is a course that explores the principles and applications of Artificial Intelligence (AI) using the GPT (Generative Pre-trained Transformer) model. This course focuses on understanding the fundamentals of AI and how GPT can be used for various tasks such as natural language processing, text generation, and machine learning. The course covers a variety of topics related to AI and GPT, aiming to develop students' understanding of the underlying algorithms and techniques used in AI-powered applications.

Prerequisite: CSE 304 Programming Languages

CSE 480 AI with reinforcement learning (3 credits)

AI with Reinforcement Learning is a course that explores the principles and applications of Artificial Intelligence (AI) using reinforcement learning techniques. This course focuses on understanding the fundamentals of reinforcement learning and how it can be applied to solve complex problems and make intelligent decisions. The course covers a variety of topics related to AI and reinforcement learning, aiming to develop students' understanding of the underlying algorithms and techniques to solve practical problems.

Prerequisite: Python

CSE 490 Special Topics (0.5 - 1.5 credits)

Special topics courses include courses that address a current or timely topic, that are in a "pilot" phase before being offered on an ongoing basis, or that are known to be one-time offerings. Special topics course offerings can vary from term to term. Each special topic course should add the keyword on the course title to identify the course content.

CSE 491 Seminars (1.5 – 3.0 credits)

This course is meant to give students opportunities to explore topics in broad areas. Students will participate in a series of presentations. The presenters will come from other schools, industries, our faculty, and other students. The topics may be any aspect of the latest technologies or an approach that is interesting to students. Students can take up to two seminar courses. In this course, students will participate in activities that will develop their broad skills and knowledge, also they will have opportunities to explore a special topic in depth.

CSE 499 Internship (1-3 credits)

The Bachelor of Science in Computer systems Engineering internship is designed to provide students with the opportunity to gain practical experience in a professional work environment. The internship is structured around the following objectives: Professional development, Technical

skills development, Industry exposure. Students will be required to keep a journal and submit regular progress reports to the internship coordinator. By the end of the course, students will have gained valuable professional and technical skills that will prepare them for a successful career in computer engineering.

No more than 3 credits of practicum coursework may be counted towards graduation. Part-time internship is 1 credit, and full-time internship is 2 credits. Part-time internship together with 9 concurrent credits, or full-time internship together with 6 concurrent course credits are considered as full-time study. Each 1 credit of a practicum course requires at least 45 hours of practical experience related to the student's program curriculum.

prerequisite: Approval by the program advisor

MBA Program Courses

MB500 Financial Management (3 credits)

This course is designed to introduce modern financial theories, tools, and methods used for the analysis of financial problems, and give students a thorough understanding of the essential concepts that need to develop and implement effective financial strategies. The course begins with a presentation of corporate finance fundamentals before progressing to discussions of specific techniques used to maximize the value of a firm. The course also explores the recent financial and economic crises and the role of finance in the business world. The course also includes access to the same Thomson Reuters Financial database that business professionals use every day. It is packed with additional learning solutions to help the students to become professionals in Finance.

MB510 Human Resource Management (3 credits)

This course is designed for students to learn the concept of HRM, history, and current examples to develop advanced HRM skills. It is the most comprehensive way to learn the full spectrum of HRM. The class provides six types of high-quality applications that use concepts to develop students' critical thinking skills. Including Human resource management strategic planning and legal issues, Strategy driven human resource management, the legal environment and diversity management, staffing, developing and managing talent. Four types of skill-building exercises develop HR management skills that can be utilized right away. The real case studies demonstrate HRM practice in the current business world. Students learn to apply the concept through critical thinking and to develop HRM skills they can use in their personal and professional lives.

MB530 Statistics for data analysis (3 credits)

This course teaches students about the statistics for data analysis in the business world. Students will learn the statistics methods for business analysis, such as how random variables are used in statistical models. Students also learn the latest technology, tools and how to best utilize the tool to efficiently process and present data, get the insight from the data and enable business to make the right decision quickly. It provides realistic examples, problem sets and cases for students to internalize the strategy to overcome the real world challenges and equipped with methodology and tools to quickly solve real-world problems.

MB550 Project Management (3 credits)

This course learns the Agile Project Management (APM) four focal points: opportunities created by the agile revolution and its impact on product development, the values and principle that drive agile project management, the specific practices that embody and amplify those principles, and practices to help entire organizations. Today, the pace of project management moves faster. Project management needs to become more flexible and far more responsive to customers. Using Agile Project Management (APM), project managers can achieve all these goals without compromising value, quality, or business discipline. This class integrates the practical project management, product management, and software development practices into an overall framework designed to support unprecedented speed and mobility. Special topics include incorporating agile values, scaling agile projects, release planning, portfolio governance, and enhancing organizational agility.

MB554 Leadership (3 credits)

This course teaches the students the awareness of their own strengths and opportunities for improvement while gaining an understanding of the qualities essential to being an extraordinary leader. By the end of the course, the students will have: Increased the understanding of what distinguishes between more and less successful leaders and construct a plan for their own development as a leader; sharpened their ability to diagnose situations and determine how then can add value; gain experience and confidence in leadership situations, such as dealing with difficult people and inspiring others to accomplish shared team and organizational goals; and developed the ability to accept and leverage feedback and offer useful feedback to others.

MB558 Financial Accounting and Analysis (3 credits)

This course covers the material that is essential to understanding a set of financial statements. After taking this course, students will be able to read and understand the material in a financial statement. This course will be organized around how companies run their businesses, especially about financial reporting. The course will concentrate on how financial analysts use financial statement information. This course will articulate the balance sheet, income statement and cash flow statement; explain the effects of accounting changes, restatements, discontinued operations, and

extraordinary items. Financial instruments (investments in debt instruments, equities, and derivatives; cash flow, fair value, and foreign currency hedges; outstanding debt, equity, deferred taxes (reconciliation of taxes paid with tax expense), securitization stock-based compensation, earnings per share (basic and diluted) will be studied.

MB560 Marketing Management (3 credits)

This course studies marketing management by analyzing real-world cases. Students will learn to implement and execute the marketing process through situation assessment, strategy formulation, marketing planning, marketing implementation and evaluation. Students will have a chance to explore the cutting-edge marketing management that reflects the latest in marketing theory and practice.

MB562 Digital Marketing (3 credits)

This course studies digital marketing. This includes keyword research, SEO, digital advertising with Google Ad words, social media marketing with Facebook (plus Instagram, LinkedIn, Twitter), email marketing, content marketing, and web analytics with Google Analytics. Students will also learn how to do global digital marketing in multiple languages for multiple countries. After the study of the course, students will be able to do digital marketing for a large company or a startup company using SEO, Google Ad words, Facebook, Instagram, Twitter, and Google Analytics for any product.

MB572 Organizational Behavior (3 credits)

This course explores the complex dimension of organizational behavior including examination of experiential and conceptual approaches to communication, self-awareness, perception, motivation, problem solving and culture. Students apply interpersonal and intrapersonal exploration to the management of change, leadership theories and organizational issues. Real case projects are required.

MB580 Business Analytics and Strategy (3 credits)

This course introduces to you the latest analytical concepts, tools and methods in data mining, statistics and machine learning used to solve critical business problems in an organization. In this course, you will learn to identify, evaluate, and capture business analytic opportunities that create value. You will also learn how to transform data into deep business insights and actionable business strategy. This is a very practical course that focuses on real business cases and examples, based on the actual working experience of the instructor as a marketing data science director.

At the end of the course, you will gain a holistic view of common analytical problems in the key functional areas of an organization, including but not limited to product, operations, finance, sales

and marketing management. You will know how to solve these business problems using the most effective tools and methods in data science. This course will position you as an analytical expert or leader in your organization who understands where and how to apply advanced analytics to create business value.

MB590 Special Topics (0.5 - 1.5 credits)

Special topics courses include courses that address a current or timely topic, that are in a "pilot" phase before being offered on an ongoing basis, or that are known to be one-time offerings. Special topics course offerings can vary from term to term. Each special topic course should add a keyword on the course title to identify the course content.

MB591 Seminars (1.5 – 3.0 credits)

This course is meant to give students opportunities to explore topics in broad areas. Students will participate in a series of presentations. The presenters will come from other schools, industries, our faculty, and other students. The topics may be any aspect of the latest technologies or an approach that is interesting to students. Students can take up to two seminar courses. In this course, students will participate in activities that will develop their broad skills and knowledge, also they will have opportunities to explore a special topic in depth.

MB592 Organizational Leadership (3 credits)

This class is designed for students to understand organizational behavior and learn how to better adapt to the ever-changing corporate world. The class helps students to effectively advance their careers in the corporate environment by aligning their mission with the missions of their companies. The course teaches students how to successfully lead a team in a corporate environment, understand others' unique perspectives and motivations, and build win-win working relationships. This class elevates students' strategic thinking and defines and aligns goals with their company's most critical priorities and missions. This course enhances students' ability to execute their missions smoothly and add significant value to their organizations. Real-life examples, live practice, and simulation projects are included in the course. Students are required to give presentations at the end.

MB593 Digital Transformation (3 credits)

This course is designed to help students to build strong digital twins – for both company and individual, to become more competitive in the digital age. This class will help students to gain practical experience in building successful brands for their companies and individuals in the digital era. This course teaches students the practice in how to build modern digital brands while utilizing traditional leadership skills to broaden their influence. Social media channels and digital marketing applications are used to expand the presence of corporations and individuals. This class will also

cover how to use these digital platforms and tools to build a thriving ecosystem for their work and life. Real-life examples will be analyzed in the classroom, and live practice and simulation projects will be included in the course. Students are required to give either group or individual presentations at the end.

MB594 Effective Business Communication (3 credits)

This course is designed for students to learn the practical ways in the corporate world to communicate effectively. It contains four modules: 1. Managing up, 2 Managing across, 3. Multi-channel communication, 4. Storytelling and Presentation. It provides specific tools and methodology to build effective communication for internal and external channels, and enhances our students' ability to convey an idea, convince others, and influence widely. Templates, tools, and practicing sessions are included in this class. This class helps students to become leaders who can effectively communicate their mission, strategy, and innovative ideas, and gain support and resources to make a bigger impact. Presentations are required for this course.

MB598 Business Administration Internship (1-2 credits)

This course is designed for students to gain practical experience from working in industry. Part-time CPT is 1 credit, together with concurrent 9 course credits, and full-time CPT is 2 credits, together with 6 concurrent course credits. Each 1 credit of a practicum course requires at least 45 hours of practical experience related to the student's program curriculum.

MB599 Business Administration Capstone (3 credits)

This course is designed for students to gain practical experience in integrating the knowledge learned from the program including the core courses, and elective courses, and deliver a final project under the guidance of the course instructor. The final delivery project will vary depending on the needs of the industry, and the students' backgrounds. The scope of the course is determined by the instructor.

MB600 Python for AI (1.5 credits)

Python has been used in many technical fields, especially for AI programming. This course will cover the basics and some advanced features of Python programming and prepare students for AI programming and big data applications. Students do not need prior programming experience to take this course. The class will cover the basic Python, including String, List, Set, Dictionary, Tuple, Concept of mutable and immutable, Sequence, Function, Control flow, File I/O, Module Class, and advanced Python, including Iterators and Generators, Decoration, Class in-depth, NumPy, Pandas, etc. The examples and problems used in this course are drawn from diverse areas such as text processing and data processing, so that students will be able to use Python for various applications.

MB602 Practical User Experience (1.5 credits)

This course teaches students how to drive product design in effective and iterative cycles to assess what works best for the business and users. This course is for both UX designers who wish to learn strategy, technique, and process of designing UX, and business leaders who wish to understand and improve the UX engagement model in an agile environment, how stakeholders collaborate with the design team, and how to inject design thinking in the product development life cycle. You will learn valuable UX principles, tactics, and techniques and how product teams can easily incorporate design, experimentation, iteration, and continuous learning from real users into their Agile process, how and when to introduce what user research in different phases of product development. This course will position you as a professional UX designer, or pro-UX business leader in a fast-moving agile process.

MB604 Machine Learning Fundamental (1.5 units)

The Machine Learning course provides students with the ability to apply machine learning or predictive analytics methods. Machine learning models covered include classifiers, regression, and unsupervised learning. Some more advanced topics, such as, deep learning models are introduced. In this course, you will learn how to apply machine learning to creating data-driven solutions to business problems, and query data sources for both training machine learning models and production models. You will also learn how to construct, evaluate, and cross-validate classification and regression models to predict value in production and how to construct unsupervised learning models to discover and understand structure in unlabeled data sets, develop and understand deep learning models and their relationship to other machine learning models.

MB606 AI for Business (1.5 units)

The course offers an executable guide for applying AI to business problems. AI-First companies are the only trillion-dollar companies, and soon they will dominate even more industries, more definitively than ever before. These companies succeed by design - they collect valuable data from day one and use it to train predictive models that automate core functions. As a result, they learn faster and outpace the competition in the process.

The course focuses on helping participants understand various aspects of AI as applicable to business including identifying the most valuable data, building the teams that build AI, integrating AI with existing processes and keep it in check, measure and communicate its effectiveness and reinvest the profits from automation to compound competitive advantage. It's not about building the right software - it's about building the right AI.

The pedagogy for the course will include a combination of classroom sessions that cover foundational concepts of AI, and case-study discussions of how AI has been used in businesses and student projects. Each student will be involved in a real-life AI business project where they will work in a team setting, identify a business problem that can be solved using AI, and plan and design a prototype/proof-of-concept to address the business problem.

MB610 Cloud Computing and Security (1.5 units)

This course offers students an introductory understanding and hands-on experience of cloud computing using AWS. It will cover a wide range of topics in computing, Storage, Networking, Security, Monitoring and Logging, as well as Account and Cost Management. Topics include the evolution of cloud computing, AWS global infrastructure, architectural principles, key services, and their common use cases, security and compliance models, pricing, and account management. Students will do hands-on projects on setting up the AWS account and selecting needed resources.

MB614 Practical Project Management (1.5 units)

This course introduces basic concepts, processes, and practices of project management and will be more specific on planning and managing projects in the Information Technology (IT) area. Project management concepts, methodologies, and tools will be explained with real-world examples and cases within the standard Project Management Institute (PMI) framework. Students will learn the skills necessary to define project scope, create workable project plans, and manage projects with quality, budget, and schedule in mind. Typical project management methods, such as Waterfall and Agile, and organization structures will be explained and compared. The course is structured around the key phases of project knowledge areas in mind, ranging from project scope, integration, stakeholder, to communication. In addition, students will be taught critical thinking on identifying and prioritizing potential issues and best practices in industry.

MB616 Business Analytics (1.5 units)

This course introduces the latest analytical tools and methods in data science, statistics and machine learning used to solve critical business problems in an organization. In this course, you will learn to identify, evaluate, and capture business analytic opportunities that create value. You will also learn how to transform data into deep business insights and actionable business strategy. This is a very practical course that focuses on real business cases and examples, based on industrial practice. At the end of the course, you will gain a holistic view of common analytical problems in the key functional areas of an organization, including but not limited to product, operations, finance, sales and marketing management. You will know how to solve these business problems using the most effective tools and methods in data science.

MB620 Deep Learning with PyTorch (1.5 units)

This course covers deep learning with a focus on its application in computer vision. Deep learning is a branch of machine learning which mainly uses the technology of neural networks. We will discuss the basics of computer vision, and machine learning and venture into deep learning theories and applications. We will also learn a variety of machine learning and deep learning frameworks with PyTorch. The introduction to basic neural networks, convolutional neural networks, and recurrent neural networks is combined with the development of real applications in the computer vision field.

MB624 Practical Digital Marketing (1.5 units)

This course offers an in-depth understanding and hands-on experience in current digital marketing. We will look at how to build and manage campaigns from small to global, including multiple languages in multiple countries. Overview of the types of campaigns along with a detailed look at tools and methods. This includes keyword research, SEO (search engine optimization), digital advertising on Google and Microsoft Bing search engines, social media marketing with Facebook, Instagram, Twitter, LinkedIn, email marketing, content marketing, and web analytics with Google Analytics. This class enables students to design and carry out a digital marketing campaign for any project. Each lecture is followed by practical hands-on work. You will see how to use a tool and then you will do the work in class. There will be lots of examples of digital marketing success (and failures) at companies. Discussion and your questions about your projects or companies are strongly encouraged.

MB626 Data Visualization for Machine Learning (1.5 units)

This course covers Data visualization and communication using Machine Learning and its core models and algorithms for students in the Data Science Program. It covers all significant topics, including graphics, discrete and continuous variables, clustering and classification. The objective of the course is to provide students an overview of machine learning techniques to visualize and explore, analyze, and leverage data. The course covers the use of data analysis and machine learning to aid the development of visualization. Implement prototypes that use visualization to explain machine learning models supervised, unsupervised, and reinforcement learning. Students will be familiarized with broad machine learning and statistical pattern recognition topics, including neural network training, classification, regression, and support vector machines. This course will use different languages' frameworks to demonstrate machine learning techniques. Students will use R and Tableau to complete the homework, assignments and projects through the course.

MB628 Machine Learning for NLP (1.5 units)

This course covers Big Data and NLP on Cloud. It provides an overview of the Microsoft Azure Cloud Platform and a deeper dive into the data processing and NLP capabilities. Through a combination of presentations, demos, and hands-on labs, students will learn how to design data processing systems, orchestrate end-to-end data pipelines, and build scalable, accurate, and production-ready natural language models using cloud technologies. The latest NPL models, including GPT3, BURT, etc., will be covered in this course.

MB630 Data Engineering with SQL and NoSQL (1.5 units)

This course covers SQL and NoSQL databases with AWS and Apache Cassandra. The first part of the course will cover SQL languages and the second part will cover NoSQL. We will practice how to write complex SQL queries. Apache Cassandra is a free, distributed, wide-column store. NoSQL database management systems are designed to handle large amounts of data across many commodity servers, providing high availability with no single point of failure. Cassandra supports clusters spanning multiple data centers, with asynchronous masterless replication allowing low-latency operations for all clients. We will have hands-on projects about real applications. While Cassandra is a NoSQL database designed for massive data analytics, Cassandra offers a limited SQL interface called CQL, that does not have a join and windows function. We will integrate Spark SQL with Cassandra and run advanced SQL queries such as join, window function, and nested sub-queries. We will also work on PostgreSQL, an open source relational database for more advanced SQL queries that are designed to handle SQL coding challenges in many of the data science and data engineering job interviews.

MB632 Introduction to Cloud Computing (1.5 units)

This course will provide students with an overview understanding of Cloud Computing's impact, the financials and an understanding of this technology, enabling students to gain both an overview of its uses and some hands-on experience with it.

This course is an introduction to Cloud Computing for students without programming. The students who have general experience working in tech or modern startups will find this course especially helpful to understand the technology.

The main cloud providers like Azure, AWS, GCP will be covered, with simple hands-on practices. Network SDN/VDN, Network security, virtualization, containerization, serverless functions, software platform, infrastructure AS a service will be covered in the course. Students will do the hands-on exercises in the configuration of simple components in both Azure and AWS.

MB 634 Practical Organizational Behavior (1.5 credits)

This course is designed to provide an in-depth examination of the dynamics of human behavior within the context of organizations. It aims to offer a comprehensive understanding of how various elements within an organizational setting - such as its structural design, prevailing cultural ethos, leadership styles, and modes of communication - play a pivotal role in shaping individual and group behaviors. Emphasis is placed on analyzing the interplay between these organizational components and their cumulative impact on employee performance, team dynamics, decision-making processes, and overall organizational effectiveness. The course also explores theoretical frameworks and practical case studies to illustrate these concepts, fostering a nuanced appreciation of the complex interdependencies that exist within any organizational ecosystem.

MB636 DevOps (1.5 credits)

DevOps is a set of practices that combines software development and IT operations. It aims to shorten the systems development life cycle and provide continuous delivery with high software quality. DevOps is complementary to Agile software development; several DevOps aspects came from Agile methodology. Software and the Internet have transformed the world and its industries, from shopping to entertainment to banking. Software no longer merely supports a business; rather it becomes an integral component of every part of a business. This course will teach students how to design, build, and deliver software using DevOps philosophy. One fundamental practice is to perform very frequent but small updates. This is how organizations innovate faster for their customers. Popular tools (like Jenkins, spinnaker) will be used for teaching. Other tools may be used as needed.

MB638 Deep Learning with TensorFlow (1.5 credits)

TensorFlow is one of the most in-demand and popular open-source deep learning frameworks available today. The course teaches you applied machine learning skills with TensorFlow so you can build and train powerful models. In this hands-on course, you'll learn the necessary tools to build scalable AI-powered applications with TensorFlow. After finishing this course, you'll be able to apply your new TensorFlow skills to a wide range of problems and projects. This course can help you prepare for the Google TensorFlow Certificate exam and bring you one step closer to achieving the Google TensorFlow Certificate.

MB640 Data Collection and Multivariate Analysis (1.5 credits)

This course teaches students about the advanced data analytics in the business world. Students will learn the method to gather, clean, analyze and model data to provide insights. Students also learn the foundations for statistical inference, the process of inferring properties of an entire population from those of a subset known as a sample, and various modeling, which allows us to associate how differences in data that describe one phenomenon are related to differences in others. Various

modelings are used for assessing profitability, setting prices, identifying anomalies, and generating forecasting. Big data has become more and more common in business. This course also covers how to build a multivariate model with big data.

MB 642 Generative Artificial Intelligence (1.5 credits)

A Large Language Model (LLM) is a type of machine learning model that is built using deep learning techniques, particularly transformer architectures. LLMs are capable of capturing complex patterns and relationships in language, enabling them to perform a wide range of natural language processing tasks. LLMs are trained on massive amounts of textual data often consisting of billions or even trillions of tokens (words) and can generate human-like responses. In this course, we will learn an overview of the important concepts, applications, and future of LLMs. We will cover how you can apply LLMs to your existing or future career in the industry.

MB 644 Business Ethics (1.5 credits)

This course examines the fundamental concepts and theories of business ethics, focusing on the application of ethical principles to contemporary business challenges. Students will develop critical thinking and analytical skills to identify, analyze, and resolve ethical dilemmas in various business contexts. Course Objectives include: 1). Understand the importance of ethical behavior in business and its impact on stakeholders; 2). Analyze ethical issues using various ethical frameworks and theories; 3). Develop critical thinking and problem-solving skills to address ethical dilemmas; 4). Enhance communication and collaboration skills through class discussions and projects; 5). Apply ethical principles to real-world business scenarios and case studies.

MB 646 A Practical Course on AI for Industrial Application (1.5 credits)

This course examines the fundamental concepts and theories of business ethics, focusing on the application of ethical principles to contemporary business challenges. Students will develop critical thinking and analytical skills to identify, analyze, and resolve ethical dilemmas in various business contexts. Course Objectives include: 1). Understand the importance of ethical behavior in business and its impact on stakeholders; 2). Analyze ethical issues using various ethical frameworks and theories; 3). Develop critical thinking and problem-solving skills to address ethical dilemmas; 4). Enhance communication and collaboration skills through class discussions and projects; 5). Apply ethical principles to real-world business scenarios and case studies.

MB 646 A Practical Course on AI for Industrial Application (1.5 credits)

In this highly practical course, learners will obtain first-hand experience leveraging AI / Generative AI models (GPT/ Gemini etc..) to streamline applications and enhance data-driven decision making. Through interactive modules and hands-on projects, students will learn how leading

organizations currently apply GenAI tools such as chatbots, text generation, and data synthesis to reduce costs, accelerate workflows, and gain competitive advantages.

The course takes an applied approach to equip students with practical frameworks to implement AI/GenAI in various domains. Real-world use cases and guest speaker sessions with industry practitioners will underscore how organizations are employing these technologies in operations ranging from customer service to human resources.

Upon completion, students not only grasp GenAI capabilities, but possess the practical skills and responsible mindset to successfully incorporate these tools in various roles. The course welcomes all students seeking an actionable perspective on leveraging AI to drive organizational performance and productivity.

MB 648 ChatGPT Application (1.5 units)

This course is designed to provide an overview of ChatGPT, a state-of-the-art language model developed by OpenAI. The course will cover the history of language models, the architecture of ChatGPT, its applications, and its impact on the field of natural language processing. Students will also gain practical experience in working with ChatGPT through various assignments and projects.

The topics included in this course included: 1. Understand the basic principles of language models and natural language processing 2. Gain knowledge of ChatGPT architecture, algorithms, and applications 3. Develop practical experience in working with ChatGPT through various assignments and projects 4. Explore the ethical implications of AI language models.

MB 650 Marketing Management (1.5 units)

Whether you are selling goods, services, properties, events, or even ideas, marketing should be a critical function for your organization. When considered properly, marketing deals with the whole process of entering markets, establishing profitable positions, and building lasting customer relationships. To fully execute on a marketing strategy requires not only a solid understanding of the essential tools of marketing, however; it also requires collaboration across multiple departments to ensure there is key strategic alignment to support the marketing vision.

This course therefore focuses on developing a framework for a comprehensive marketing plan, while also exploring the typical decisions that marketing leadership might face in their efforts to balance a marketplace’s needs and opportunities with an organization’s objectives, capabilities, and resources.

MB 652 Prompt Engineering (1.5 units)

Prompt engineering is the art and science of writing prompts that effectively communicate the desired information or task to a large language model (LLM) to get more efficient and accurate

results. In this course, we will learn an introduction to prompt engineering and learn at least 8 different techniques to optimize its functioning. The new jobs emerging are "Prompt Engineers" which will help you to communicate better with AI to achieve the desired results.

The topics included in this course included: Learning Prompt engineering fundamentals; Learn Zero-shot, few shot, COT, role prompting and others; Explore the Summarizing, Inferring, Expanding and Transforming techniques; exploring instructional, Creative, multimodal, and adversarial prompts.

MB 654 Investment Management (1.5 units)

This course is designed to provide students with a comprehensive understanding of investment principles, strategies, and practices, drawing extensively from the book "Investments" by Bodie, Kane, and Marcus. Over the course of 7 weeks, students will delve into the foundational concepts of investing, exploring financial markets, asset classes, portfolio theory, risk management, and more. This course will equip students with the knowledge and tools necessary to make informed investment decisions and construct well-diversified portfolios.

MB 656 Financial Management (1.5 units)

This course is designed to further introduce modern financial theories, tools, and methods used in the analysis of financial problems. The point of view of corporate financial managers will be taken to interact with efficient capital markets. While making the best use of constrained resources is necessary, maximizing shareholders' equity is also vitally important. The primary focus is on analysis and forecast of internal operations and the use of short-term and long-term capital. Upon completion of this course, students will be able to: 1. Write financial report to the top management. 2. Demonstrate presentation skills on a real-world financial case study. 3. Conduct financial analysis with solid quantitative skills. 4. Acquire financial data to recreate recommendations for the top management. 5. Explore the Wall Street opinions to formalize a conclusion.

CSE520 Advanced Operating System (3 credits)

This course offers graduate students an in-depth understanding and hands-on experience in modern understanding and hands-on experience in modern operating system design and implementation. Topics include progress, memory, file system, I/O, deadlocks, operating system implementations, modern distributed and network system architectures, communication and synchronization in distributed systems, thread and process scheduling. Projects are required.

CSE540 Advanced Data Structure and Algorithms (3 credits)

This course is designed to teach efficient use of data structures and how to design an algorithm to solve a practical problem. Students will learn the logical relations between data structures

associated with the real problem and its physical representation. Topics include algorithms and algorithm efficiency analysis, data organization and the applications. Practical use of the arrays, stacks, queues, single and double linked lists, trees, graphs, and heaps will be covered in depth. The class based data models with OOB design concept will also be introduced.

CSE550 Advanced Java Programming for Internet Application (3 credits)

This course learns all the basics and advanced features of Java programming. It starts with the basics and Leads to Advance features of Java in detail. This course covered and explained several topics of the latest Java 8 Features in detail. Topics include– Lambdas. Java 8 Functional interface, Stream and Time API in Java 8. This course teaches the students how to develop, debug and Java Internet applications. The course starts with keywords, syntax, and constructs that form the core of the Java language and then it leads the students to advanced features of java, including multithreaded programming and Applets. Students get a chance to review the fundamentals and learn the advanced topics. The previous programming experience in C/C++ is required for this course.

CSE552 Full Stack Development (1.5 units)

Full Stack Development course will enable you to build interactive and responsive web applications using both front-end and back-end technologies. This course starts with basics of Web Development, covers JavaScript and jQuery essentials, guides you to build remarkable user interface via Angular or React, helps you to build scalable backend applications using Express & Node.js plus manage data using MongoDB. You will complete the course with a small project.

CSE554 Internet and Network Security (3 credits)

The course addresses security risks in computer networks and computer systems and the fundamental techniques used to reduce these risks. It also gives an introduction to the role of security as an enabling technology for electronic commerce. The course is divided into four major parts: (1) Fundamentals of Network Security and System Security, (2) Fundamentals of Cryptography: This is probably the most important part of this course. This part involves basic reasoning and understanding of cryptography. This includes the fundamentals of symmetric and asymmetric key systems, message integrity (hashing functions), digital signature, digital certificate, key management, and familiarity with common standards for these techniques; (3) Cryptography in real world applications: Several security applications will be discussed, including PGP, SSL, IPsec, with SSL be the focus- major components of SSL protocol and its role in electronic commerce. Students will learn how to set up an https web server, and how to apply and integrate digital certificate with browsers, web servers, and communication protocols on the Web; (4) Hands-on Cryptography: This part is for those who are interested in implementing security software using cryptography.

CSE556 Database System (3 credits)

This course provides an in-depth understanding of the Database Management System. Emphasis is on the latest database architecture, database configuration and administration. Topics include logical/physical database layout, database server processes, database creation, various database physical objects; client/server configuration, multi-threaded server configuration, database storage management, database security, database utilities, database monitoring, partitions, and database backup/recovery methods. This course specifically details procedural extensions to SQL to develop stored procedures, functions, packages and database triggers. In addition, it covers database performance tuning from an application development point of view by exploring query optimizer, database hints, and various database access methods. Cloud Database Development and Management explains how student can take advantage of the cloud environment to develop their own fully functioning database systems.

CSE558 Machine Learning (3 credits)

This course will teach methods and techniques for using stored data to make decisions. The student will learn data types including operational or transactional data such as data for sales, cost, and inventory; nonoperational data such as forecast data and macroeconomic data; and meta data, and learn their patterns, associations, or relationships, and how to use the information for decision making. Statistical learning concepts such as regression, classification, decision trees and model reduction techniques such as principal component analysis will be introduced. Specific examples of engineering and businesses using data mining techniques will be given in the course. The student is required to work on course projects by using modern data analysis software and referring to cases studied.

CSE572 Artificial Intelligence Application Using TensorFlow (3 credits)

This course will teach the fundamentals and contemporary usage of the TensorFlow library for deep learning projects. The goal is to help students understand the graphical computational model of TensorFlow, explore the functions it has to offer, and learn how to build and structure models best suited for a deep learning project. The main content of the course includes the following parts, TensorFlow basics, Linear and Logistic Regression and TensorFlow Serving, Deep Neural Network, regularization, hyper-parameter tuning, Convolutional neural network, LSTM and Seq2seq, and Reinforce Learning. Through the teaching, students will use TensorFlow to build models of different complexity, from simple linear/logistic regression to convolutional neural networks and recurrent neural networks to solve tasks such as word embeddings, translation, optical character recognition. Students will also learn best practices to structure a model and manage research experiments.

CSE574 Deep Learning (3 credits)

Deep Learning has become the most important skill in AI. This course will help students become good at Deep Learning. In this course, students will learn the foundations of Deep Learning, understand how to build neural networks, and learn how to apply machine learning knowledge in real projects. The course will teach Convolutional networks, RNNs, LSTM, Adam, Dropout, Batch Norm, and more. Students will work on projects from autonomous driving, sign reading, and natural language processing. Students will master not only the theory, but also see how it is applied in industry. Students will practice all these ideas in Python and in TensorFlow, which will be covered in the course too. After this course, students will be able to apply deep learning to their work. Students will complete a real project at the end.

CSE590 Special Topics (0.5 - 1.5 credits)

Special topics courses include courses that address a current or timely topic, that are in a "pilot" phase before being offered on an ongoing basis, or that are known to be one-time offerings. Special topics course offerings can vary from term to term. Each special topic course should add the keyword on the course title to identify the course content.

CSE591 Seminars (0.5 - 1.5 credits)

This course is meant to give students opportunities to explore topics in broad areas. Students will participate in a series of presentations. The presenters will come from other schools, industries, our faculty, and other students. The topics may be any aspect of the latest technologies or an approach that is interesting to students. Students can take up to two seminar courses. In this course, students will participate in activities that will develop their broad skills and knowledge, also they will have opportunities to explore a special topic in depth.

CSE598 Computer Systems Engineering Internship (1-2 credits)

This course is designed for students to gain practical experience from working in industry. Part-time CPT is 1 credit, together with concurrent 9 course credits, and full time CPT is 2 credits, together with 6 concurrent course credits. Each 1 credit of a practicum course requires at least 45 hours of practical experience related to the student's program curriculum.

CSE599 Computer Systems Engineering Capstone (3 credits)

This course is designed for students to gain hands-on experience on integrating the knowledge learned from the program including the core courses, and elective courses, and deliver a final project under the guidance of the course instructor. The final delivery project will vary depending

on the trend of the computer industry, and the students' background. The scope of the course is determined by the instructor.

CSE600 Python for AI (1.5 units)

Python has been used in many technical fields, especially for AI programming. This course will teach the learner to the basics and some advanced features of the python programming and prepare students for the AI programming and big data applications. Students do not need prior programming experience to take this course. The class will cover the basic Python, including String, List, Set, Dictionary, Tuple, Concept of mutable and immutable, Sequence, Function, Control flow, File I/O, Module Class, and advanced Python, including Iterators and Generators, Decoration, Class in depth, NumPy, Pandas, etc. The examples and problems used in this course are drawn from diverse areas such as text processing and data processing, so that students will be able to use Python for various applications.

CSE604 Machine Learning Fundamental (1.5 units)

The Machine Learning course provides students with the ability to apply machine learning or predictive analytics methods. Machine learning models covered include classifiers, regression and unsupervised learning. Some more advanced topics, such as, deep learning models are introduced. In this course, you will learn how to apply machine learning to creating data driven solutions to business problems, query data sources for both training machine learning models and production models. You will also learn how to construct, evaluate, and cross-validate classification and regression models to predict value in production and how to construct unsupervised learning models to discover and understand structure in unlabeled data sets, develop and understand deep learning models and their relationship to other machine learning models.

CSE606 AI Application with GAN (1.5 units)

This course focuses on deep neural network learning with Generative Adversarial Network (GAN) and introduces some key concepts in deep neural learning. Training Deep learning networks requires a good understanding of the nature of gradient descent and its variant, and different forms of loss functions. GAN is a class of machine learning frameworks. Given a training set, GAN learns to generate new data with the same statistics as the training set. A GAN trained on photographs can generate new photographs that look at least superficially authentic to human observers. Though originally proposed as a form of generative model for unsupervised learning, GANs have also proven useful for semi-supervised learning, fully supervised learning, and reinforcement learning. The core idea of a GAN is based on the "indirect" training through the discriminator, which itself is also being updated dynamically.

CSE608 AI Application with Reinforcement Learning (1.5 units)

This course focuses on in-depth understanding of deep learning applications and introduces some key concepts in reinforcement learning. Training Deep learning networks can be a challenging task and requires a good understanding of the nature of gradient descent and its variants. Students will learn about different forms of loss functions and hyper parameters and regularization in conv nets, RNNs and others. The focus then turns into reinforcement learning as an alternative to supervised learning. OpenAI Gym is introduced as a tool to simulate the agent's environment and interaction. We will use Keras as a key framework to model different neural network architectures.

CSE610 Cloud Computing and Security (1.5 units)

This course offers students an in-depth understanding and hands-on experience of cloud computing using AWS. It will cover a wide range of topics in Compute, Storage, Networking, Security, Monitoring and Logging, as well as Account and Cost Management. Topics include evolution of cloud computing, AWS global infrastructure, architectural principles, key services and their common use cases, security and compliance model, pricing and account management. Students will do hands-on projects on setting up the AWS account and select needed resources.

CSE612 AI Application in Computer Vision (1.5 units)

The course covers the fundamental concepts in Computer Vision, including probability and mathematical theories, image processing, feature detection, structure from motion, face detection and recognition, etc. The course also introduces the deep learning tools such as PyTorch and TensorFlow with computer vision applications such as human pose estimation. Students will learn the fundamental concepts of computer vision theories and practical solutions. Students will also learn to use the OpenCV software for solving image processing and computer vision problems, and the PyTorch and TensorFlow tools for training deep learning neural network models to solve computer vision problems.

CSE618 Algorithm in Python (1.5 units)

This course is designed to teach efficient use of data structures and how to design an algorithm to solve a practical problem. Students will learn the logical relationships between the data structures associated with the real problems and their physical representations. Topics include algorithms and algorithm analysis, data organization and the applications. Practical use of the arrays, stacks, queues, single and double linked lists, trees, graphs, and heaps will be covered in depth. The class-based data models with object-oriented design patterns will also be introduced.

CSE620 Deep Learning with PyTorch (1.5 units)

This course will teach deep learning with a focus on its application in computer vision. Deep learning is a branch of machine learning which mainly uses the technology of neural networks. We will discuss the basics of computer vision, machine learning and venture into deep learning theories and applications. We will also learn a variety of machine learning and deep learning frameworks with PyTorch. The introduction to basic neural networks, convolutional neural networks and recurrent neural networks is combined with the development of real applications in the computer vision field.

CSE622 Big Data Analytics with Apache Spark (1.5 units)

Spark has increased the speed of analyzing applications significantly. Because of being versatile and easy to use, Spark is rapidly gaining market share. Spark makes it easier to solve complex data problems on a large scale. It is now the most active open source project in the big data community. This course introduces the use of Spark Core, SQL, Hadoop / HDFS / Hive (Needed for Spark) for practical applications, online demonstration, and enterprise application cases (such as housing price database). In this course, students will learn the command line syntax and examples of using commands through Spark, and Spark program tuning tips and writing application code in Python and Scala with Spark in the areas of SQL, streaming, machine learning and graph computing.

CSE624 Network Security (1.5 units)

This course covers key security issues in computer communication networks. Among the issues to be discussed are: the security of LANs, WANs; threats to computer networks through exploitation of network infrastructure design weaknesses; security flaws in the network infrastructure protocols; security of content in computer network services; and risk assessment and security policies. Network intrusion detection and forensics technologies, cryptographic and authentication systems, capability and access control mechanisms are also discussed, including new developments in Internet routing and transport protocols, secure mail, directory, and multimedia multicast services. Current trends and research in security policies and technologies will also be discussed.

CSE628 Machine Learning for NLP (1.5 units)

This course introduces students to Big Data and NLP on Cloud. It provides an overview of Microsoft Azure Cloud Platform and a deeper dive of the data processing and NLP capabilities. Through a combination of presentations, demos, and hand-on labs, students will learn how to design data processing systems, orchestrate end-to-end data pipelines, build scalable, accurate, and production-ready natural language models using cloud technologies. The latest NPL models, including GPT3, BURT, etc., will be covered in this course.

CSE630 Data Engineering with SQL and NoSQL (1.5 units)

This course will teach SQL and NoSQL databases with AWS and Apache Cassandra. The first part of the course will cover SQL languages and the second part will cover NoSQL. We will practice how to write complex SQL queries. Apache Cassandra is a free, distributed, wide column store. NoSQL database management systems are designed to handle large amounts of data across many commodity servers, providing high availability with no single point of failure. Cassandra supports clusters spanning multiple datacenters, with asynchronous masterless replication allowing low latency operations for all clients. We will have hands-on projects about the real applications. While Cassandra is a NoSQL database designed for massive data analytics, Cassandra offers a limited SQL interface called CQL, that does not have a join and windows function. We will integrate Spark SQL with Cassandra and run advanced SQL queries such as join, window function, and nested sub-queries. We will also work on PostgreSQL, an open source relational database for more advanced SQL queries that are designed to handle SQL coding challenges in many of the data science and data engineering job interviews.

CSE632 Introduction to Cloud Computing (1.5 units)

This course will provide students with an overview understanding of Cloud Computing's impact, the financials and an understanding of this technology, enabling students to gain both an overview of its uses and some hands-on experience with it.

This course is an introduction to Cloud Computing for students without programming. The students who have general experience working in tech or modern startups will find this course especially helpful to understand the technology.

The main cloud providers like Azure, AWS, GCP will be covered, with simple hands-on practices. Network SDN/VDN, Network security, virtualization, containerization, serverless functions, software platform, infrastructure AS a service will be covered in the course. Students will do the hands-on exercises in the configuration of simple components in both Azure and AWS.

CSE636 DevOps (1.5 units)

DevOps is a set of practices that combines software development and IT operations. It aims to shorten the systems development life cycle and provide continuous delivery with high software quality. DevOps is complementary with Agile software development; several DevOps aspects came from Agile methodology. Software and the Internet have transformed the world and its industries, from shopping to entertainment to banking. Software no longer merely supports a business; rather it becomes an integral component of every part of a business. This course will teach students how to design, build, and deliver software using DevOps philosophy. One fundamental practice is to perform very frequent but small updates. This is how organizations

innovate faster for their customers. Popular tools (like Jenkins, spinnaker) will be used for teaching. Other tools may be used as needed.

CSE638 Deep Learning with TensorFlow (1.5 credits)

TensorFlow is one of the most in-demand and popular open-source deep learning frameworks available today. The course teaches you applied machine learning skills with TensorFlow so you can build and train powerful models. In this hands-on course, you'll learn the necessary tools to build scalable AI-powered applications with TensorFlow. After finishing this course, you'll be able to apply your new TensorFlow skills to a wide range of problems and projects. This course can help you prepare for the Google TensorFlow Certificate exam and bring you one step closer to achieving the Google TensorFlow Certificate.

CSE 642 Generative Artificial Intelligence (1.5 credits)

A Large Language Model (LLM) is a type of machine learning model that is built using deep learning techniques, particularly transformer architectures. LLMs are capable of capturing complex patterns and relationships in language, enabling them to perform a wide range of natural language processing tasks. LLMs are trained on massive amounts of textual data often consisting of billions or even trillions of tokens (words) and can generate human-like responses. In this course, we will learn an overview of the important concepts, applications, and future of LLMs. We will cover how you can apply LLMs to your existing or future career in the industry.

CSE 644 Cloud Management (1.5 credits)

This class primarily centers around Cloud Native Application Architecture, which serves as the established standard for modern cloud platforms. It delves into its foundational container technologies, as well as the associated Software Development Life Cycle (SDLC) methodologies and well-established best practices. Topics include what is Cloud Native Computing Foundation (CNCF) is, the history of the evolution of CNCF, and the key computing platform at the center of CNCF - Kubernetes, which is becoming the standard Operating System for Cloud computing platforms, and the impacts and significant changes Kubernetes brings to the modern DevOps best practices as well as its expected benefits. It provides a comprehensive introduction to how container technologies work, the Software Development Life Cycle (SDLC), how to build and manage them, and how to design cloud-native services and infrastructure.

CSE 646 A Practical Course on AI for Industrial Application (1.5 credits)

In this highly practical course, learners will obtain first-hand experience leveraging AI / Generative AI models (GPT/ Gemini etc..) to streamline applications and enhance data-driven decision making. Through interactive modules and hands-on projects, students will learn how leading

organizations currently apply GenAI tools such as chatbots, text generation, and data synthesis to reduce costs, accelerate workflows, and gain competitive advantages.

The course takes an applied approach to equip students with practical frameworks to implement AI/GenAI in various domains. Real-world use cases and guest speaker sessions with industry practitioners will underscore how organizations are employing these technologies in operations ranging from customer service to human resources. Upon completion, students not only grasp GenAI capabilities, but possess the practical skills and responsible mindset to successfully incorporate these tools in various roles. The course welcomes all students seeking an actionable perspective on leveraging AI to drive organizational performance and productivity.

CSE648 ChatGPT Application (1.5 units)

This course is designed to provide an overview of ChatGPT, a state-of-the-art language model developed by OpenAI. The course will cover the history of language models, the architecture of ChatGPT, its applications, and its impact on the field of natural language processing. Students will also gain practical experience in working with ChatGPT through various assignments and projects.

The topics included in this course included: 1. Understand the basic principles of language models and natural language processing 2. Gain knowledge of ChatGPT architecture, algorithms, and applications 3. Develop practical experience in working with ChatGPT through various assignments and projects 4. Explore the ethical implications of AI language models.

CSE650 Digital Integrated Circuit Design using FPGA (1.5 units)

Digital design using FPGAs is a very important activity in industries because the cost of an FPGA design is much lower than that of an ASIC design. Also, the time-to-market is much faster. To design a digital system using the FPGA, the designers should understand the architectures of the FPGA, as well the CAD tools that comes along with it. In this course, we will study in detail, the FPGAs architecture. Various digital blocks such as combinational logic, sequential logic, finite state machines, RAM, DSP, and a microprocessor are built by exploiting the architectures of the FPGAs. At the end of the course, the students can design systems and IP exploiting FPGA architecture using Verilog.

CSE 652 Prompt Engineering (1.5 units)

Prompt engineering is the art and science of writing prompts that effectively communicate the desired information or task to a large language model (LLM) to get more efficient and accurate results. In this course, we will learn an introduction to prompt engineering and learn at least 8 different techniques to optimize its functioning. The new jobs emerging are "Prompt Engineers" which will help you to communicate better with AI to achieve the desired results.

The topics included in this course included: Learning Prompt engineering fundamentals; Learn Zero-shot, few shot, COT, role prompting and others; Explore the Summarizing, Inferring, Expanding and Transforming techniques; exploring instructional, Creative, multimodal, and adversarial prompts.

50. ADMINISTRATION AND FACULTY

Executive Officers

President / Chief Academic Officer	Glen Qin (Zhigang Qin)	Ph.D. EECS MBA
Chief Executive Officer / Director of Marketing	Elizabeth Xu	Ph.D. MBA

Staff

Director of Registrar, Records, Campus Management System Designer	Maggie Ren, MFA
Director of Library Services	Peijun Zheng, PhD
VP of Student Services	Jeff Lou, Ph.D.
Director of Student Services	Swati Singh
Department Chair, Computer Systems and Engineering	Glen Qin, PhD.
Department Chair, Business Administration	William Li, PhD.

Faculty

Master of Business Administration (MBA)

Glen Qin (15 years' experience)
Ph.D. in Philosophy University of California, Berkeley
MS in Science & Engineering, University of California, Berkeley
MBA, Northwestern Polytechnic University
BS in Engineering, Tsinghua University, Beijing, China

Jeng-Dau Wu (James) (10 years' experience)
Ph.D. in Business Administration, Golden Gate University, San Francisco, CA
MS in Business Administration, University of California, Berkeley, CA
BS of Business Administration, National Taiwan University, Taiwan

Guangbin (March) Liao (12 years' experience)
MBA in Business, UC Berkeley, Berkeley, CA
BS in Automation, University of Science and Technology of China, Anhui, China

Flora Chu (15 years' experience)
Ph.D. in Business Administration, Northwestern Polytechnic University, Fremont, CA
MS in Business Administration, Chadwick University, Birmingham, AL
BS in Business Administration, Biola University, La Mirada, CA

Leland Lee Winters (15 years' experience)
Ph.D. in Business Administration, Northwestern Polytechnic University, Fremont, CA

Ph.D. in Medicine UTESA, Medical School, Santo Domingo, Dominican Republic
MS in Health Administration, University of Washington, Seattle, WA

An Luo (18 years' experience)
Ph.D. in Biomedical Engineering, Columbia University, New York, NY
MS in Pattern Recognition & Intelligent Systems, Chinese Academy of Sciences, Beijing, China
BE in Electrical Engineering, Tsinghua University, Beijing, China

Qian (Chandler) Qian (16 years' experience)
Ph.D. in Systems Design Engineering, University of Waterloo, Ontario, Canada
MS in Geography, University of Waterloo, Ontario, Canada
BS in Environmental Planning and Management, Nankai University, Tianjin, China

Andreas Ramos (13 years' experience)
MA in Philosophy, University Heidelberg, Heidelberg, Germany
BA with Honors in Philosophy, University of Tennessee, Knoxville, Tennessee

Xinyu Zhang (12 years' experience)
MA in Computer Science, University of West Florida, Pensacola, FL

Faith Bradley (11 years' experience)
Ph.D. Public Policy, University of Arkansas - Fayetteville, Arkansas
MS in Business Administration, George Washington University, Washington DC

Jay Ruparel (20 years' experience)
MBA, Indian Institute of Management (IIM), Bangalore Indian
BE (Electronics & Communications), North Gujarat University, Patan Indian

Elizabeth Xu (20 years' experience)
Ph.D. Atmospheric Science, University of Nevada, Reno
M.S. in Computer Science, University of Nevada, Reno
M.S. in Environmental Science, Peking University

Peter Lou (30 years' experience)
M.A. Ph.D (ABD), International Economics, University of Iowa, Iowa City
M.B.A., University of Illinois at Urbana-Champaign (UIUC)

Morris Nelson (23 years' experience)
MBA California Science and Technology University, Milpitas, CA
BA Business/Computer Science, METROPOLITAN STATE UNIVERSITY ST PAUL, MN

Wickey (Jiewen) Wang (16 years' experience)

Master of Information Systems Management - MISM Brigham Young University – Provo, UT
Bachelor of Mgt. Information Systems Xi'an University of Arch & Tech–- Xian, Shaanxi, PR China

Xin Lu (15 years' experience)
Ph.D., Information Sciences and Technology, The Pennsylvania State University, University Park, PA, USA
M.E., Signal and Information Processing, B.E., Electronic Information and Engineering, Tianjin University, Tianjin, China

Scott Kane (15 years' experience)
Master of Business Administration| International Management (MBA), Portland State University
Bachelor of Arts | International Studies, University of Oregon

Joseph K. Lee (30 years' experience)
Master of Science in Law (MS Law) Northwestern University Pritzker School of Law, Chicago
Master of Business Administration (MBA) Cornell University, Ithaca NY
Master of Science in Industrial Engineering (MSIE) Purdue University, West Lafayette IN

Tony E. Kelly (27 years' experience)
Master of Science – Finance Conferred, GEORGETOWN UNIVERSITY (McDonough School of Business) Washington, D.C.
Bachelor Business Administration - Finance and Investments, BERNARD BARUCH COLLEGE New York, NY

Argus O Milton (23 years' experience)
MBA – Master of Business Administration, KELLER GRADUATE SCHOOL OF MANAGEMENT – ATLANTA, GA
Bachelor of Arts in Health Care Management, 2005, LIFE UNIVERSITY – MARIETTA, GA
Bachelor of Science in Business Administration, LIFE UNIVERSITY – MARIETTA, GA

Master of Science in Computer Systems and Engineering

Jahan Ghofraniha (15 years' experience)
Ph.D. in Philosophy in Electrical Engineering, University of British Columbia
MS in Applied Science in Electrical Engineering, University of British Columbia

Bhairav Mehta (15 years' experience)
MBA in Product Management, Cornell University, Ithaca, NY, USA
MS in Computer Science, Queen's University, Kingston, Canada

Danian Gong (19 years' experience)
Ph.D. in Communication and Information Systems, Tsinghua University, Beijing, China
MS in Engineering, Tsinghua University, Beijing, China

BS in EE Dept., Zhejiang University, Hangzhou, China

William Li (15 years' experience)
Ph.D. in Physics, University of Nevada, Reno, NV
M.S. in Computer Science, University of Nevada, Reno, NV
M.S. in Environmental Science, Peking University, China
B.S. in Space Physics, Peking University, China

Ge Yung (George) Jen (24 years' experience)
Ph.D. in Computer Engineering, Northwestern Polytechnic University, Fremont, CA
MBA in Business, Northwestern Polytechnic University, Fremont, CA
MS in Computer Engineering, Wayne State University, Detroit, MI

Daniel Z Zanger (20 years' experience)
Ph.D. in Mathematics, Massachusetts Institute of Technology, Cambridge, MA
BA in Mathematics, University of California at Berkeley, Berkeley, CA

Rohit Sharma (19 years' experience)
M.Tech. in Computer Technology, Indian Institute of Technology, Delhi, India
BS in Engineering, AMU, Aligarh, India

Jim Lai (26 years' experience)
Ph.D. in Electrical and Computer Engineering, Northeastern University, Boston, MA
MS in Electrical and Computer Engineering, Fudan University, Shanghai, China

Bo Shen (24 years' experience)
Ph.D. in Computer Science, Wayne State University - Detroit, MI
B.S. in Computer Science, Nanjing University of Aeronautics & Astronautics - Nanjing, CN

Amir Amadzadeh (22 years' experience)
Ph.D. in Electrical Engineering, University of California, Los Angeles

Weilan Wu (15 years' experience)
MS in Computer Science, Washington University, St. Louis, Missouri
BS in Computer Science, South China University of Technology, Guangzhou, China

Yongchang Feng (24 years' experience)
Ph.D. in Materials Science & Engineering, Carnegie Mellon University, Pittsburgh, PA
MBA, Leavey School of Business, Santa Clara University, Santa Clara, CA

MS, Materials Science, Chinese Academy of Science, P.R. China

Ken Halbrecht (20 years' experience)
MBA in Finance, International Business, Fordham University - New York, NY
BS in Economics in Marketing and Operations Research, dual major. Minor in Comp Sci and Law, The Wharton School, The University of Pennsylvania - Philadelphia, PA

Qingsong Zhang (10 years' experience)
Ph. D. MCGILL UNIVERSITY, Montreal, Quebec, Canada
Master of Engineering, NORTHEAST UNIVERSITY, Shengyang, Liaoning, P.R. China
Bachelor of Engineering, NORTHEAST UNIVERSITY, Shengyang, Liaoning, P.R. China

Ram Prasad Bora (21 years' experience)
Ph.D. Mathematical Modeling of Chemical and Biochemical systems, Indian Institute of Technology Madras, Chennai, India

Gopi Vinod Avvari (11 years' experience)
PH.D. IN ELECTRICAL AND COMPUTER ENGINEERING, UNIVERSITY OF CONNECTICUT, Storrs, CT
MS IN ELECTRICAL AND COMPUTER ENGINEERING, UNIVERSITY OF CONNECTICUT, Storrs, CT

NAEM A. SAAFEIN (24 years' experience)
Doctorate of Management in Information Systems and Technology, University of Phoenix, U.S.
Master of Business Administration (MBA), University of Phoenix, United States
Bachelor of Electrical Engineering, Telecommunications Major, Carleton University- Canada

Shalini S. Gopalkrishnan (30 years' experience)
DBA University of Florida,
MBA Indian Institute of Management Calcutta
BS University of Mumbai Mathematics/Statistics

M. SRIDHARAN (20 years' experience)
Doctor of Philosophy (Ph.D.) in Electrical & Computer Engineering from Virginia Tech, VA
Master of Science (M.S.) in Electrical & Computer Engineering from Rutgers University, NJ
Bachelor of Technology (Hons.) in Electronics & Electrical Communications Engineering from Indian Institute of Technology (IIT), Kharagpur, India

51. CALENDAR

The Administrative Office is closed for two weeks during the Christmas and New Year Holidays each year and also for all legal United States (US) Federal Government holidays.

HOLIDAYS

- ✓ New Year's Day
- ✓ Martin Luther King, Jr. Day
- ✓ President's Day
- ✓ Good Friday
- ✓ Memorial Day
- ✓ Independence Day
- ✓ Labor Day
- ✓ Veteran's Day
- ✓ Thanksgiving (Thursday and Friday)
- ✓ Christmas (2-week break)

2024 Start Dates
January 5, 2024
Mar 1, 2024
May 1, 2024
July 1, 2024
August 31, 2024
October 30, 2024

Note: CSTU offers programs on a modular based schedule. Classes start every other month. Students may enroll at the beginning of a class.

Course Schedule

https://www.cstu.edu/pages/academic/calendar/calendar_google.html?v=b71c625257