

CERTIFICATES / MINORS

Business Certificates

Business Certificates

All certificates will only be awarded in conjunction with a baccalaureate degree. The courses in these certificates can be taken by any undergraduate student, unless otherwise stated, enrolled at Texas A&M University-San Antonio and count as electives according to degree plan requirements.

The College of Business offers students the opportunity to gain marketable skills with Certificates in:

- A.I. Essentials for Business
- Digital Marketing
- Entrepreneurship
- Healthcare Services Administration
- Human Resources Management
- International Business
- Investing
- Supply Chain Management
- Taxation

A.I. Essentials for Business Certificate

The exponential growth of artificial intelligence is rapidly changing the way for-profit, non-profit, and public sector organizations operate. Klein (2023) argues it is imperative for educators to help students become informed consumers of artificial intelligence. "AI literacy is something that every student needs exposure to - not just those who are planning on a career in computer science" (para. 6). The A.I. Essentials for Business Certificate provides students with a basic understanding of how AI works, experiential activities that explore the technology, and opportunities to discuss ethical issues related to AI.

The *A.I. Essentials for Business Certificate* provides students from all academic programs with an interdisciplinary opportunity to learn about artificial intelligence in a variety of industries (e.g., healthcare, law enforcement, retail, manufacturing, human resources, agriculture, nonprofits, etc.). The certificate's courses provide:

- A hands-on opportunity to work with artificial intelligence.
- Valuable insight into how AI improves individual and organizational performance.
- An efficient way for COB students to earn a certificate that provides them with a competitive advantage in the workforce.

To earn the *A.I. Essentials for Business Certificate* students are required to complete 4 courses related to the strategic application of artificial intelligence.

Code	Title	Credits
BUAD 3393	Introduction to Artificial Intelligence	3
BCOM 3304	Bus Communication	3
BUAD 4303	Ethical Decisions Spcl Topics	3
Select one of the following:		3
CISA 4313	Programming for Data Analytics	
CISA 4332	Data Science and Analytics	

MGMT 4342	Training & Development
MKTG 3342	Integrated Mktg Communication

Total Credits 12

Digital Marketing Certificate

The Digital Marketing Certificate includes the following four courses (12 SCH):

Code	Title	Credits
MKTG 3311	Principles of Marketing	3
or MKTG 3341 Marketing Research		
MKTG 3343	Digital Marketing	3
MKTG 3345	Visual Media Marketing	3
MKTG 3363	Social Media Marketing	3
Total Credits		12

Entrepreneurship Certificate

The Entrepreneurship Certificate equips students with essential skills to identify opportunities, develop innovative business ideas, and transform them into viable ventures.

The Entrepreneurship Certificate has 2 required courses and 2 electives (12 SCH):

Code	Title	Credits
MGMT 3370	Introduction to Entrepreneurship: Exploring the World of the Entrepreneur	3
MGMT 3372	Introduction to the Entrepreneurial Experience- From Ideation to Launch	3
Select two of the following courses:		6
MGMT 3371	Entrp: Small Business Management	
MGMT 4375	Managing Growth and Scale in Entrepreneurship	
MGMT 4376	Technology Entrepreneurship and Venture Creation	
MGMT 4377	Entrepreneurial Wealth and Legacy	
MGMT 4379	Entrp: Spcl Topics Entrprnrshp	
MGMT 4380	Social Innovation and Entrepreneurship	
Total Credits		12

The certificate will only be awarded upon successful completion of degree and all four courses.

Healthcare Administration Certificate

The Healthcare Administration Certificate has 1 required course and 3 electives (12 SCH):

Code	Title	Credits
HCSA 3311	Foundations of Healthcare Administration	3
Select three from the following Healthcare Administration courses:		9
HCSA 3337	Financial Management of Healthcare Organizations	
HCSA 3341	Healthcare Policy & Law	
HCSA 4321	Healthcare Information Systems	
HCSA 4322	Managed Care & Health Insurance	
HCSA 4323	Quality Management in Healthcare Organizations	
HCSA 4325	Healthcare Ethics & Compliance	
Total Credits		12

Human Resources Management Certificate

The Certificate in Human Resource Management program incorporates existing MGMT courses from the human resource management concentration which in combination provide non-HR major students with sufficient HR knowledge to be marketable and competitive at the entry job level for HR.

The Human Resources Management Certificate includes the following courses (12 SCH):

Code	Title	Credits
MGMT 3325	Human Resources Mgmt and Proc	3
MGMT 4342	Training & Development	3
Select any two of the following:		6
MGMT 3323	Employment Law	
MGMT 4341	Compensation & Benefits	
MGMT 4343	Performance Management	
MGMT 4345	Inter Human Resources Mgmt	
MGMT 4347	HRIS & Data Analytics	
MGMT 4348	Talent Management	
Total Credits		12

International Business Certificate

The International Business Certificate has 2 required courses and 2 electives (12 SCH):

Code	Title	Credits
MGMT 4331	International Business	3
MKTG 4363	International Marketing	3
Select two from the following International courses:		6
BLAW 4344	International Business Law	
ECON 3334	International Economics	
FINC 4342	International Finance	
MGMT 4332	International Comparative Management	
POLS 3341	International Relations	
POLS 4342	International Organization	
POLS 4343	International Law	
Any special Topics International Course Offerings		
Total Credits		12

Investing Certificate

The Investing Certificate requires the following five courses (13 SCH):

Code	Title	Credits
FINC 3337	Principles of Corporate Finance	3
FINC 4331	Investments	3
FINC 4332	Portfolio Management	3
FINC 4341	Financial Markets/Institutions	3
FINC 4191	Experiential Learning-Investng	1
Total Credits		13

Supply Chain Management Certificate

The Supply Chain Management Certificate has 3 required courses and 1 elective (12 SCH):

Code	Title	Credits
MGMT 4314	Global Logistics Management	3
MGMT 4330	Global Purchasing/Supply Mgmt	3
MGMT 3324	Total Quality & Lean Management	3
Select one from the following courses:		3
MGMT 3320	Supply Chain & Operations Mgmt	
MGMT 4311	Project Management	
MGMT 4334	Currrnt Topic-Supply Chain Mgmt	
MGMT 4361	Negotiation in Bus Environment	
MGMT 4381	Optimization Mthd-Bus Analytc	
Total Credits		12

Taxation Certificate

The Taxation Certificate requires the following five courses (13 SCH):

Code	Title	Credits
ACCT 3301	Accounting for Non-Accnt Mjrs	3
or ACCT 3302	Intermediate Accounting I	
ACCT 3314	Cost Managerial Accounting	3
FINC 3338	Financial Statement Analysis	3
BUAD 3309	Intro Fed Individual Income Tax	3
BUAD 4191	Exprntl Learning-Income Tax	1
Total Credits		13

Computing Certificates

All certificates will only be awarded in conjunction with a baccalaureate degree. The courses in these certificates can be taken by any undergraduate student, unless otherwise stated, enrolled at Texas A&M University-San Antonio and count as electives according to degree plan requirements.

The computing programs offer students the opportunity to gain marketable skills with Certificates in:

- A.I. (Artificial Intelligence)
- Cybersecurity
- Data Analytics
- Mobile Computing
- NSA/ DHS Cyber Defense Education

A.I. Certificate (UG)

With the growth of student enrollment in computing programs and the demand for leveraging AI tools and applications, the A.I. Certificate is designed to provide computing majors with the essential knowledge and practical skills needed for the AI workforce.

To earn an A.I. Certificate, students need to complete the following three courses (9 SCH):

Code	Title	Credits
CSCI 4313	Artificial Intelligence	3
CSCI 4314	Big Data Systems	3
CSCI 4341	Machine Learning	3
Total Credits		9

Cybersecurity Certificate

To earn a Cybersecurity Certificate, students need to complete the following four courses (13 SCH):

Code	Title	Credits
CSEC 1436	Cyber Security Prog I + Lab	4
or CSCI 1436	Programming Fundamentals I	
CSEC 2306	Computer Networks	3
or CSCI 4306	Computer Networks	
CSEC 3321	Information Security	3
or CSCI 3321	Cyber Security	
CSEC 4323	Computer Forensics	3
or CSEC 4324	Penetration Testing	
or CISA 4324	Security Risk Analysis	
or CISA 3321	Information Security	
or CSCI 3321	Cyber Security	
Total Credits		13

Data Analytics Certificate

To earn a Data Analytics Certificate, students need to complete the following three courses (9 SCH):

Code	Title	Credits
CISA 2313	Python Programming	3
CISA 4313	Programming for Data Analytics	3
CISA 4332	Data Science and Analytics	3
Total Credits		9

Mobile Computing Certificate

To earn a Mobile Computing Certificate, students need to complete the following four courses (12 SCH):

Code	Title	Credits
CSCI 3354	Web Application Development	3
CSCI 4325	Mobile Applications Development I	3
CSCI 4335	Mobile App Development II	3
Select one elective from the following:		3
CSCI 3304	Database Systems	
CSCI 4316	Software Engineering I	
CISA 3304	Database Systems	
CISA 4303	Client Server Appl Devel	
CISA 4313	Programming for Data Analytics	
CISA 4332	Data Science and Analytics	
CETE 3370	Cloud Computing Infrastructure Security	
CETE 4375	Wireless and Mobile Security	
CETE 4392	Big Data Analytics & Security	
Total Credits		12

NSA/ DHS Cyber Defense Education Certificate

ALL students graduating from the BS_CSCI, BS_CYBR, BS_CYBE, BBA_CISA, BAAS_ITEC, BAAS_ISEC programs with Cybersecurity concentrations are eligible to get the NSA/DHS Cyber Defense Education Certificate upon graduation if they complete the following required courses successfully with a grade of C or better:

Code	Title	Credits
CSEC 2306	Computer Networks	3
or CSCI 4306	Computer Networks	
or CISA 2306	Computer Networks	
CSEC 3351	Database Design	3
or CSCI 3304	Database Systems	
or CISA 3351	Database Design & SQL	
CSEC 3309	Scripting Languages	3
or CISA 3309	Scripting Languages	
CSEC 3321	Information Security	3
or CSCI 3321	Cyber Security	
or CISA 3321	Information Security	
CSEC 3325	Network Security	3
or CISA 3325	Network Security	
CSEC 4323	Computer Forensics	3
or CISA 4323	Computer Forensics	
CSEC 4324	Penetration Testing	3
or CISA 4324	Security Risk Analysis	
CSEC 4326	Security & Operation Practicum	3
or CISA 4326	Security & Operation Practicum	
Total Credits		24

Minors

Minors

Consult with your academic advisor to determine the optimum number of lower-division and upper-division courses within the chosen minor.

College of Arts and Sciences

- The minors offered by the College of Arts and Sciences are: [Click Here (<https://catalog.tamusa.edu/undergraduate/arts-sciences/#minorstext>)]

College of Business

- The minors offered by the College of Business are: [Click Here (<https://catalog.tamusa.edu/undergraduate/business/#minorstext>)]

College of Education and Human Development

- The minors offered by the College of Education and Human Development are: [Click Here (<https://catalog.tamusa.edu/undergraduate/education-human-development/#minorstext>)]