

To: University Senate  
From: Tracy Love-Geffen, Chair  
Graduate Council  
Date: September 2021  
Re: 2022-2023 *University Catalog*

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**ACTION (3A-09-21)**

**ADMINISTRATION, REHABILITATION AND POST SECENDARY EDUCATION**

1. New certificate.

Administration, Rehabilitation and Post Secondary Education

**Co-occurring Disorders Advanced Certificate**

**(SIMS Code: XXXXXX)**

The Advanced Certificate in Co-occurring Disorders is designed to educate counseling students and practicing counselors to provide effective, evidence-based services to individuals with co-occurring substance use and mental health disorders. This certificate is designed for masters-level counseling students and practicing counselors in rehabilitation counseling, social work, marriage, and family counseling, and other counseling professions who seek to develop knowledge and skill in the area of integrated services (i.e., the provision of simultaneous substance use and mental health services in the same service setting).

The Certificate provides all of the requirements for the Licensed Advanced Alcohol and Drug Counselor (LAADC) credential provided by the California Consortium of Addiction Programs and Professionals (CCAPP).

Prerequisites: A bachelor's degree from an accredited institution with demonstrated experience in rehabilitation services (for current master's students) or a master's degree in rehabilitation counseling or a related counseling profession. Required courses include six didactic courses (18 units) and one internship course (3 units) as follows:

ARP 601	Psychiatric Rehabilitation and Co-occurring Disorders: Law and Ethics . . . 3
ARP 608	Assessment for Psychiatric Rehabilitation and Co-occurring Disorders . . . 3
ARP 612	Skills, Resources, and Programs in Cognitive Disabilities...3-12
ARP 660	Theory and Process of Counseling in Rehabilitation . . . 3
CSP 650	Trauma and Crisis Counseling . . . 3
CSP 687	Family and Systemic Treatment of Substance Abuse . . . 3
CSP 694	Psychopharmacology for MFT and Counseling . . . 3

Students may complete the certificate in conjunction with, or subsequent to, the MS in Rehabilitation Counseling, Concentration in Clinical Mental Health and Clinical Rehabilitation Counseling--LPCC. Students must complete a master's degree in order to

qualify for the LAADC credential. The Advanced Certificate in Co-occurring Disorders is offered fully online through admission to the SDSU Global Campus program.

Students must maintain a minimum grade point average of 3.0 in all certificate coursework with no less than a grade of C (2.0) in any course. Only three units of coursework with a grade of C (2.0) or better will count towards the certificate. A maximum of three units of coursework can be repeated. Courses in the certificate program may be applied to a master's degree if applicable. Contact the program advisor for more information.

## AEROSPACE ENGINEERING

1. New course.

Aerospace Engineering

*HYPERSONIC AERODYNAMICS (C-4)*

A E 613. Hypersonic Aerodynamics (3)

Prerequisites: Aerospace Engineering 302 and Mechanical Engineering 350, or instructor consent.

Theory and computation of hypersonic aerodynamics, including atmospheric re-entry. Advanced topics in compressible flows of non-perfect gases with varying specific heat and composition.

2. New course.

Aerospace Engineering

*INTRO STAT DYN AEROELSTCY (C-3)*

A E 661. Introduction to Static and Dynamic Aeroelasticity (3)

Fluid-structure interaction and its static and dynamic effects on airplanes. Aileron reversal, doublet lattice method, dynamic aeroelastic instability (flutter), static aeroelastic instability (divergence), sweep effects, unsteady aerodynamics; computational dynamic aeroelasticity using NASTRAN.

Course Statement: Formerly numbered Aerospace Engineering 731.

3. New course.

Aerospace Engineering

*FLIGHT CONTROL (C-4)*

A E 678. State-Space Flight Control (3)

Prerequisites: Aerospace Engineering 440 with a grade of C (2.0) or better, or instructor consent for students with non-SDSU undergraduate degrees.

State space methods of analysis and design of continuous and discrete-time linear systems. Coordinate transformations, controllability, observability of continuous and discrete systems. Lyapunov stability analysis. Detectability, pole placement, stabilizability. Minimal order observers. Aircraft and spacecraft flight control system analysis and design.

## AUDIOLOGY

1. New course.

### Audiology

#### *COUNSEL & COMM AUDIOLOGY (C-2)*

#### AUD 812. Counseling and Communication in Audiology (2)

Principles of culturally competent clinical communication for audiology care. Empathy, the four-habits model, shared decision making, trust. Methods from nursing and medicine. Discussion with parents of children with hearing loss and adults with audiology related concerns. In-class role play, reflection.

## BUSINESS ADMINISTRATION

1. New certificate.

### Business Administration

#### **Financial Analysis Advanced Certificate**

#### **(SIMS Code: XXXXXX)**

Prerequisites to the certificate include a bachelor's degree from an accredited institution. BA 674 Financial Management. The requirement to complete BA 674 may be waived by the director of graduate business programs based on evaluation of prior professional experience, course content, institution at which courses were taken, grades received, and time since courses were taken.

The certificate requires 12 units to include:

1. Finance 617 Financial Management II (3 units)
2. Finance 653 Case Studies in Financial Management (3 units)
3. Finance 654 Seminar in International Business Finance (3 units)
4. Accounting 663 Financial Statement Analysis (3 units)

Students must complete the 12 units of certificate coursework with a minimum grade point average of 3.0 with no grade lower than a C (2.0). Courses in the certificate program may be applied to the Masters in Business Administration, Finance, and Financial and Tax Planning with the approval of the graduate adviser. Students may enroll in the certificate program and a Master's degree program in the Fowler College of Business concurrently.

## FINANCE

1. New certificate.

### Finance

#### **Investment Advanced Certificate**

#### **(SIMS Code: XXXXXX)**

Prerequisites to the certificate include a bachelor's degree from an accredited institution. BA 674 Financial Management. The requirement to complete BA 674 may be waived by the director of graduate business programs based on evaluation of prior

professional experience, course content, institution at which courses were taken, grades received, and time since courses were taken.

The certificate requires 12 units to include:

1. FIN 642 Financial Risk Management...3
2. FIN 651 Seminar in Investments ...3
3. FIN 652 Seminar in Security Analysis and Portfolio Management ...3
4. FIN 659 Decision Making in the World Economy ...3

Students must complete the 12 units of certificate coursework with a minimum grade point average of 3.0 with no grade lower than a C (2.0). Courses in the certificate program may be applied to the Masters in Business Administration, Finance, and Financial and Tax Planning with the approval of the graduate adviser. Students may enroll in the certificate program and a Master's degree program in the Fowler College of Business concurrently.

2. New program.

Finance

**Master of Science Degree in Finance**

**(Major Code: XXXXX) (SIMS Code: XXXXXX)**

In addition to meeting the requirements for classified graduate standing and the basic requirements for the master's degree as described in Requirements for Master's Degrees, the student must complete a graduate program of at least 30 approved units including at least 21 units in 600- and 700- numbered courses. Up to nine units of coursework may be accepted as transfer credit. With approval of the graduate adviser, a substitute course may be allowed in place of a required course after reviewing student credentials.

**Required Courses (18 Units):**

- |         |   |
|---------|---|
| FIN 617 | Financial Management II ...3                    |
| FIN 651 | Seminar in Investments ...3                     |
| FIN 652 | Seminar in Security Analysis and Portfolio ...3 |
| FIN 653 | Case Studies in Financial Management ...3       |
| FIN 659 | Decision Making in the World Economy ...3       |
| B A 674 | Financial Management ...3                       |

**Electives (9 Units): Electives may be selected from the following:**

- |           |  |
|-----------|--|
| FIN 641   | Financing the Emerging Enterprise ...3               |
| FIN 642   | Financial Risk Management ...3                       |
| FIN 654   | Seminar in International Business Finance ...3       |
| FIN 783   | Seminar in Real Estate Investment ...3               |
| ACCTG 663 | Financial Statement Analysis ...3                    |
| B A 749   | Business Analytics ...3                              |
| BDA 594   | Big Data Science and Analytics Platforms ...3        |
| MIS 620   | Electronic Business and Big Data Infrastructures...3 |
| MIS 748   | Seminar in Applied Multivariate Analytics ...3       |

In special circumstances, other electives may be selected with prior approval of the graduate adviser.

**Required: Culminating experience (3 units)**

Under Plan A, Business Administration 799A, Thesis, is required. Under Plan B, a comprehensive examination and three units of electives selected from above list of elective courses.

For regulations concerning grade point averages, final approval for the granting of the degree, award of the degree, and diplomas, refer to the basic requirements for the master's degree as described in Part Four of this bulletin.

## MATHEMATICS

### 1. New Advanced Certificate.

Mathematics and Statistics  
Professional Data Science Advanced Certificate  
(SIMS Code: XXXXXX)

The advanced certificate in Data Science will provide students with hands-on training for data analytics. Students will study fundamental principles for statistical inference, classification and prediction, machine learning, and other advanced topics in data science. Students will also be required to analyze data with computer software and to interpret data analysis results for real world problem-solving and decision-making. The Professional Data Science Advanced Certificate is offered fully online through admission to the SDSU Global Campus program.

#### **Admission requirements.**

The minimum admission requirement is a bachelor's degree in a quantitative field with a GPA of at least 2.5. In addition, the student should have completed before entering the program the following undergraduate coursework: two semesters of calculus with a grade of C (2.0) or better in each course, and working knowledge of a programming language.

The student must complete 12 units of coursework as described below (with no grade less than B in each course).

STAT 556 Mathematical Statistics for Data Science...3  
STAT 656 Database Management and Predictions...3  
STAT 657 Statistical and Machine Learning Methods...3  
STAT 658 Advanced Data Analytics...3

Students must complete the 12 units of certificate coursework with a minimum grade point average of 3.0 with no grade lower than a C (2.0).

## MATHEMATICS EDUCATION

### 1. New course.

Mathematics Education  
*EQUITY IN STEM EDUCATION (C-3)*  
MTHED 608. Equity in STEM Education (3)

Prerequisite: Graduate standing.

Inclusion, social justice, and systemic inequities in STEM education. Application of theory to classroom practice and policy.

## MECHANICAL ENGINEERING

1. New course.

Mechanical Engineering  
*TISSUE ENGINEERING (C-2)*  
M E 688. Tissue Engineering (3)

Introduction to the interdisciplinary field of tissue engineering. Application of knowledge of systems engineering, mechanics and materials towards controlling, enhancing, and understanding the performance of biological tissues.

## POLITICAL SCIENCE

1. New certificate.

Political Science

### **Advanced Certificate in Comparative and Global Politics**

(SIMS Code: XXXXXX)

The Advanced Certificate in Comparative and Global Politics provides students with both a theoretical and practical foundation in politics within and across regions. Students take core courses introducing them to major theoretical traditions in comparative and global politics and to research methods appropriate to their interests. Students also take electives that provide an in-depth look at world regions or issue areas, including international law, foreign policy, and migration. This advanced certificate is intended for students who wish to pursue careers related to comparative and/or global politics, both in the public and private sectors.

**Admissions requirements:** Open to all matriculated students with a bachelor's degree from an accredited institution or its equivalent from a foreign institution.

The advanced certificate requires 15 units with half of the coursework at the 600-level or above. A minimum grade point average of 3.0 or better must be maintained in certificate coursework, with no less than a grade of C (2.0) or better in any course.

#### **Required courses (6 units):**

POL S 655 Seminar in General Comparative Political Systems . . . 3

POL S 675 Seminar in International Relations . . . 3

#### **One required course in methods of inquiry from the following options (3 units):**

POL S 616 Tools for Quantitative Analysis . . . 3

POL S 617 Seminar in Applied Qualitative Methods . . . 3

POL S 507 Marx and Marxism . . . 3

POLS 510 Contemporary Political Thought . . . 3

#### **Two elective courses from the following list (6 units):**

POL S 658 Seminar in Post-Communist Political Systems . . . 3

POL S 661 Seminar in the Political Systems of the  
Developing Nations . . . 3

POL S 667 Seminar in Latin American Political Systems . . . 3

POL S 630	Seminar in Politics . . . 3 (with approval of certificate administrator)
POL S 530	Political Parties . . . 3
POL S 555	Comparative Political Systems . . . 3
POL S 560	Comparative Citizenship in Policy and Practice . . . 3
POL S 562	Religion and Politics in Comparative Perspective . . . 3
POL S 564	Political Ecology of Latin America . . . 3
POL S 565	Nations and Nationalism . . . 3
POL S 568	Mexican Politics . . . 3
POL S 575	International Relations of the Pacific Rim . . . 3
POL S 577	Politics of International Law . . . 3

Students may take other electives with approval of the certificate administrator. Courses in the certificate program may be applied to a master's degree (if applicable) with approval of the adviser.

### TEACHER EDUCATION

1. New course.

#### Teacher Education

##### *VISUAL-BASED LITERACY STR (C-4)*

##### TE 642. Visual-Based Literacy Strategies (3)

Prerequisites: Teacher Education 930 with a grade B (3.0) and Dual Language and English Learner Education 931 with a grade B (3.0).

Visual texts to support equitable instructional practices for diverse learners. Theoretical grounding in multiliteracies. Classroom visual-based strategies to scaffold and demonstrate understanding.