

Program:	Computational Science	Center:	Center for Research and Education in
Major:	Computational Engineering		Interdisciplinary Computation
Degree:	Professional Science Master's (P.S.M.)	College:	Mathematics and Science
		Major Code:	6671

Computational Science - Computational Engineering, P.S.M.

This major develops graduates that are technical experts in computational techniques used in various engineering disciplines. Graduates will lead efforts in the workplace to meet goals using data, quantitative techniques, and business analytics. A graduate's professional and communication skills will allow her/him to serve as lead technical resource for collaboration between units in her/his organization.

Graduate Advisor:	Dr. Sezin Kadioglu
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Office:	HOH 209
Phone:	405 - 974 - 3535

GPA will be verified by the student's undergraduate academic advisor and by a representative of the Jackson College of Graduate Studies.

Admission Requirements

Submit the following items to:

Jackson College of Graduate Studies
100 N. University Drive, NUC 404
Edmond, OK 73034

- Online application for admission (www.uco.edu/graduate/).
- Official copies of undergraduate and graduate transcripts from each institution attended with all degrees posted. All transcripts must be from accredited institutions. Undergraduate transcripts must show: *
 - Bachelor's degree in any subject area. If not in an area of science, technology, engineering or mathematics, then applicant should demonstrate work or other experience that has prepared them for the PSM program.
- Undergraduate and graduate transcripts from all institutions attended that record a minimum overall GPA of 2.75 and a minimum of 3.00 in the last 60 hours.
- The GRE exam is not required, but a minimum combined verbal and quantitative score of 300 is recommended.
- Two letters of recommendation. Letters of recommendation are requested through the online application portal.
- Meet with the PSM program director to plan the curriculum and Integrative Project prior to enrollment in the first semester of study.
- Establish a *professional* social media presence (Linkedin.com for example) and link to the PSM program director.

**Students falling below these standards may qualify for conditional admission. See [Admission to Graduate Studies \(p.17\)](#).*

Note: Students must meet with faculty mentor/advisor in group or individual advisement session before enrolling.

Accelerated Degree Pathway (ADP) Requirements

Qualifying current UCO undergraduate students seeking an Accelerated Degree Pathway (ADP) must abide by the policies and procedures outlined within the Graduate Catalog. Accelerated pathways are only available in approved bachelor's and master's degree programs (see [Accelerated Degree Pathways on p.196](#)).

- The undergraduate student must be pursuing an undergraduate UCO major that is designated and approved as part of the official UCO Accelerated Degree Pathway offerings.
- The undergraduate student must be classified as "senior" standing or be completing the last semester of their junior year (soon to be entering into their senior undergraduate year).
- The undergraduate student must have a minimum overall undergraduate grade point average (GPA) of 3.0 or higher and 3.0 or higher in major specific coursework; the undergraduate

Other Requirements

- Plan of Study. Each student must file a plan of study with their graduate program advisor and the Jackson College of Graduate Studies (JCGS) by the end of the first semester during which they complete their twelfth hour of graduate work. The plan must be signed and dated by the student and the graduate program advisor before it can be considered official.
- Academic Standards. Meet the following course work standards:
 - Minimum cumulative graduate GPA of 3.00 in all graduate courses.
 - No more than six (6) graduate credit hours of C grades.
 - Courses with a grade lower than a C do not apply toward graduation.
 - Successful completion of the Integrative Project sequence.
 - In the final semester of study, apply for graduation through the JCGS by the advertised deadline.

Graduation Requirements

Required PSM Courses 12 Hours

Course Prefix	Course No.	Course Title
PSM	5013	Computational Science for Professionals I
PSM	5113	Computational Science for Professionals II
PSM	5681	Integrative Project I
PSM	5781	Integrative Project II
PSM	5881	Integrative Project III
PSM	5203	Introduction to Data Science

Required Management Courses 7-8 Hours

Course Prefix	Course No.	Course Title
ISOM	5333	Project Management OR
MBA	5552	Project and Program Management
MBA	5033	Creative Problem Solving
MBA	5352	Managerial & Operational Analytics

Elective Business Course(s) 2-4 Hours

Choose 2-4 hours from the list below:

Course Prefix	Course No.	Course Title
MBA	5042	Managerial Economics
MBA	5142	Managerial Finance
MBA	5172	Managerial Accounting
MBA	5243	Leading People in Organizations
MBA	5572	Business Ethics & Sustainability
MBA	5642	Organizational Change & Innovation

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MSBA	5232	Data Visualization
MSBA	5314	Applied Analytics

Guided Electives.....9 Hours

Choose 9 hours from the list below:

Course Prefix	Course No.	Course Title
ENGR	5023	Heat Transfer
ENGR	5103	Finite Element Analysis
BME	5223	Biomedical Imaging
BME	5233	Biomedical Instrumentation
ENGR	5323	Digital & Analog Communication
ENGR	5333	Digital Signal Processing & Laboratory
BME	5343	Biomechanics
ENGR	5443	Fluid Dynamics
ENGR	5533	Thermal Systems Design
ENGR	5803	Mechatronics & Laboratory

General Electives.....3 Hours

Choose 3 hours from the list below:

Course Prefix	Course No.	Course Title
BIO	5xxx	Graduate BIO Course
BME	5xxx	Graduate BME Course
CHEM	5xxx	Graduate CHEM Course
CMSC	5xxx	Graduate CMSC Course
ENGR	5xxx	Graduate ENGR Course
MATH	5xxx	Graduate MATH Course
PHY	5xxx	Graduate PHY Course
STAT	5xxx	Graduate STAT Course

TOTAL HOURS REQUIRED33-36 HOURS

Accelerated Degree Pathway: BS to PSM

Accelerated Degree Pathway students who are accepted to one of the following undergraduate degrees: B.S. in Biomedical Engineering - Biomedical Engineering, Electrical Engineering - Electrical Engineering, or Mechanical Engineering - Mechanical Engineering, may apply to take 5000-level courses up to a maximum of 10 hours during their senior year of the bachelor's degree. These courses will count toward both the B.S. and P.S.M. Computational Science - Computational Engineering. The approved graduate courses are ENGR 5023 Heat Transfer, ENGR 5103 Finite Element Analysis, BME 5223 Biomedical Imaging, ENGR 5333 Digital Signal Processing, ENGR 5311 Digital Signal Processing Laboratory, ENGR 5803 Mechatronics & Laboratory. During the last semester of their junior year or within 30 hours of graduation, undergraduate students with a 3.0 overall GPA may apply for admission to the Accelerated Degree Pathway.

Accelerated Degree Pathway: BS to PSM

Accelerated Degree Pathway students who are accepted to one of the following undergraduate degrees: B.S. in Engineering Physics - Physics, may apply to take 5000-level courses up to a maximum of 10 hours during their senior year of the bachelor's degree. These courses will count toward both the B.S. and P.S.M. Computational Science - Computational Engineering. The approved graduate courses are ENGR 5023 Heat Transfer, ENGR 5103 Finite Element Analysis, ENGR 5333 Digital Signal Processing, ENGR 5311 Digital Signal Processing Laboratory, ENGR 5803 Mechatronics & Laboratory, ENGR 5443 Fluid Dynamics, PHY 5443 Quantum Mechanics. During the last semester of their junior year or within 30 hours of graduation, undergraduate students with a 3.0 overall GPA may apply for admission to the Accelerated Degree Pathway.