

# COMPUTER SCIENCE (CLAS)

## Program Information

The Department of Computer and Information Science and Engineering offers the Master of Science degree in Computer Science through the College of Liberal Arts and Sciences. Minimum requirements for this degree are given in the Graduate Degrees (<http://gradcatalog.ufl.edu/graduate/degrees/>) section of this catalog.

The department offers graduate study and research in Algorithms, Computer Vision, Databases, Graphics and Modeling, Machine Learning, Networks, and Systems, with active labs in Bioinformatics; Computational Science and Intelligence; Vision, Graphics and Medical Imaging; Database Systems Research and Development; Data Science Research; Mobile and Pervasive Computing; Human-Centered Computing; and Cybersecurity.

Specific degree requirements and options may be found here: <http://cise.ufl.edu/academics/grad> (<http://cise.ufl.edu/academics/grad/>)

Instructions for application for admission may be found here: <http://cise.ufl.edu/admissions/graduate> (<http://cise.ufl.edu/admissions/graduate/>)

### Degrees Offered

## Degrees Offered with a Major in Computer Science

- Master of Science

Requirements for these degrees are given in the Graduate Degrees (<http://gradcatalog.ufl.edu/graduate/degrees/>) section of this catalog.

### Courses

## Computer and Information Science and Engineering Departmental Courses

Code	Title	Credits
CAI 5026	AI Ethics and Alignment in Health	3
CAI 5720	Fundamentals of Artificial Intelligence in Medicine I	3
CAI 5721	Fundamentals of Artificial Intelligence in Medicine II	3
CAI 5724	AI in Health Design Studio I	1
CAI 5730	AI in Medical Image Analysis	3
CAI 6108	Machine Learning Engineering	3
CAI 6307	Natural Language Processing	3
CAI 6725	AI in Health Design Studio II	3
CAI 6826	Project in Artificial Intelligence Systems	3
CAP 5100	Human-Computer Interaction	3
CAP 5108	Research Methods for Human-Centered Computing	3
CAP 5404	Deep Learning for Computer Graphics	3
CAP 5416	Computer Vision	3
CAP 5510	Bioinformatics	3
CAP 5705	Computer Graphics	3
CAP 5771	Introduction to Data Science	3
CAP 5841	Modeling and Computing with Geometry	3
CAP 6137	Malware Reverse Engineering	3
CAP 6516	Medical Image Analysis	3

CAP 6610	Machine Learning	3
CAP 6615	Neural Networks for Computing	3
CAP 6617	Advanced Machine Learning	3
CAP 6701	Advanced Computer Graphics	3
CAP 6769	Advanced Topics in Data Science	3
CAP 6779	Projects in Data Science	3
CDA 5155	Computer Architecture Principles	3
CDA 5636	Embedded Systems	3
CDA 6325C	Cyber-physical System Security	3
CEN 5035	Software Engineering	3
CEN 5726	Natural User Interaction	3
CEN 5728	User Experience Design	3
CEN 5735	Human-Centered Input Recognition Algorithms	3
CEN 6070	Software Testing and Verification	3
CEN 6075	Software Specification	3
CIS 5209	Penetration Testing -- Ethical Hacking	3
CIS 5370	Computer and Information Security	3
CIS 5371	Introduction to Cryptology	3
CIS 6261	Trustworthy Machine Learning	3
CIS 6307	Internet Data Streaming	3
CIS 6905	Individual Study	1-3
CIS 6910	Supervised Research	1-5
CIS 6930	Special Topics in CIS	3
CIS 6935	Graduate Seminar	1-12
CIS 6940	Supervised Teaching	3
CIS 6971	Research for Master's Thesis	1-15
CIS 7979	Advanced Research	1-12
CIS 7980	Research for Doctoral Dissertation	1-15
CNT 5106C	Computer Networks	3
CNT 5410	Computer and Network Security	3
CNT 5517	Mobile Computing	3
CNT 6107	Advanced Computer Networks	3
CNT 6530	Mobile Networking	3
CNT 6885	Distributed Multimedia Systems	3
COP 5536	Advanced Data Structures	3
COP 5556	Programming Language Principles	3
COP 5615	Distributed Operating System Principles	3
COP 5618	Concurrent Programming	3
COP 5725	Database Management Systems	3
COP 6726	Database System Implementation	3
COT 5405	Analysis of Algorithms	3
COT 5442	Approximation Algorithms	3
COT 5520	Computational Geometry	3
COT 5615	Mathematics for Intelligent Systems	3
COT 6315	Formal Languages and Computation Theory	3
EGN 5949	Practicum/Internship/Cooperative Work Experience	1-6
EGN 6913	Engineering Graduate Research	0-3
IDC 5715	Virtual Reality for the Social Good	3

### Student Learning Outcomes

## Computer Science - Liberal Arts (MS)

SLO 1 Knowledge  
Students identify, formulate, and solve computer science problems

SLO 2 Knowledge  
Students can critically read computer science literature

SLO 3 Skills

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Students use the techniques, skills, and tools necessary for computer science practice at an advanced level.

SLO 4 Professional Behavior

Professional experience: an understanding of professional and ethical responsibility

SLO 5 Professional Behavior

Professional experience: Students can communicate effectively