Addendum #3

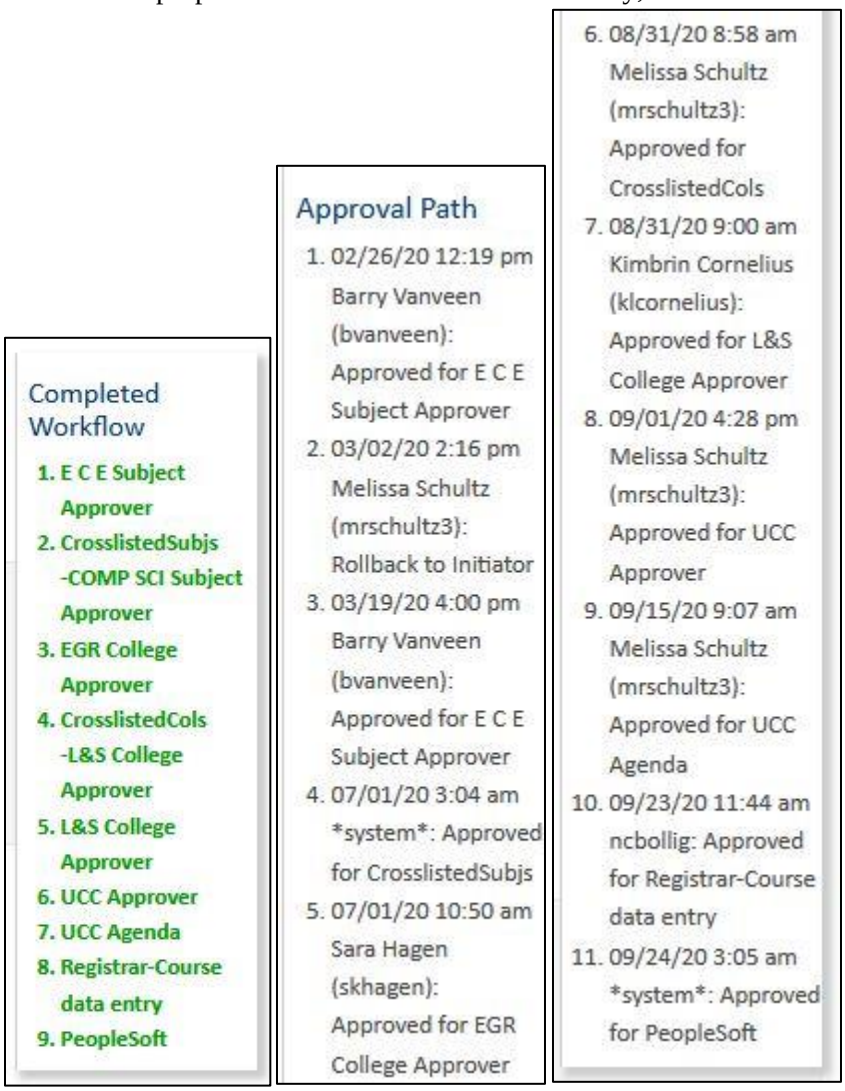
Images of the same course in various systems

Lumen Courses

Who is the intended audience?	Graduate and undergraduate students
If course will enroll undergrad and graduate students, please provide 2 sets of learning outcomes below.	
Subject	E C E - Electrical and Computer Engr
Course Number	561
Is this course crosslisted?	Yes
Select subjects that will be crosslisted	COMP SCI 561
Explain why the course will be crosslisted.	Machine Learning is an interdisciplinary field by nature. Many of the machine learning courses on campus are crosslisted as they can be taught by faculty from multiple departments.
Course Title	Probability and Information Theory in Machine Learning
Transcript Title	Prob& InfoTheory in Mach Learn
Course Description	Probabilistic tools for machine learning and analysis of real-world datasets. Mathematical topics include Bayesian probability and statistics, random vectors, categorical random variables, entropy, mutual information, and source coding. Machine Learning topics include Bayes classification, Naive Bayes, generative modeling, decision trees and random forests, maximum likelihood estimation, principal component analysis, stochastic gradient methods, empirical risk minimization, entropy minimization, dimensionality reduction with random projections, and variational autoencoders. Previous exposure to numerical computing (e.g. Matlab, Python, Julia, R) required.
Enroll Info (usually None)	None
Existing Requisites	(MATH 320, 340, 341, 375, or COMP SCI/E C E/M E 532 or concurrent enrollment) and (E C E 331, MATH/STAT 309, 431, STAT 311, 324, STAT/M E 424 or MATH 531) or grad/profsnl standing or declared in Capstone Certificate in Computer Sciences for Professionals
Requisites	(MATH 320, 340, 341, 375, or COMP SCI/E C E/M E 532 or concurrent enrollment) and (E C E 331, MATH/STAT 309, 431, STAT 311, 324, STAT/M E 424 or MATH 531) or grad/profsnl standing or declared in Capstone Certificate in Computer Sciences for Professionals
Grading Basis	A/F
Component Type	Lecture section is scheduled
Credits	3
Is this a topics course?	No
Repeatable	No

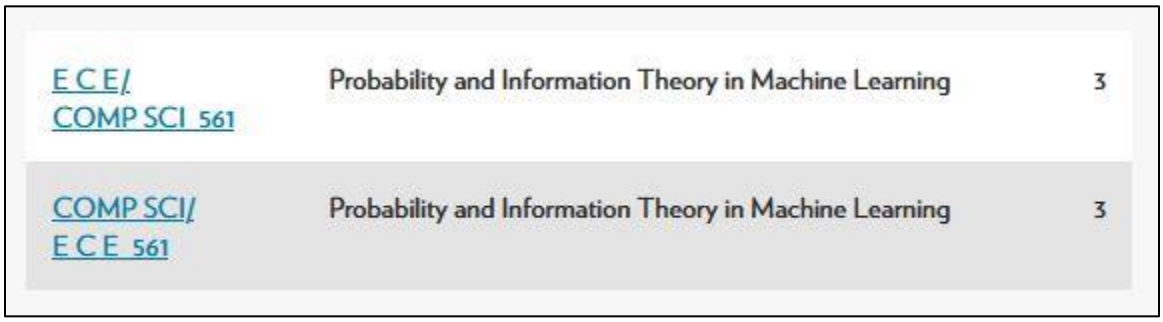
Lumen Courses Workflow

Of note: this proposal started in workflow in February, and became completed in September.



Lumen Programs

This is just an example on how they look differently depending on how they are entered in Lumen Programs.



Guide

E C E/COMP SCI 561 – PROBABILITY AND INFORMATION THEORY IN MACHINE LEARNING

3 credits.

Probabilistic tools for machine learning and analysis of real-world datasets. Mathematical topics include Bayesian probability and statistics, random vectors, categorical random variables, entropy, mutual information, and source coding. Machine Learning topics include Bayes classification, Naive Bayes, generative modeling, decision trees and random forests, maximum likelihood estimation, principal component analysis, stochastic gradient methods, empirical risk minimization, entropy minimization, dimensionality reduction with random projections, and variational autoencoders. Previous exposure to numerical computing (e.g. Matlab, Python, Julia, R) required. Enroll Info: None

^ View details

Requisites:	(MATH 320, 340, 341, 375, or M E/COMP SCI/E C E 532 or concurrent enrollment) and (E C E 331, STAT/MATH 309, 431, STAT 311, 324, M E/STAT 424 or MATH 531) or grad/profsnl standing or declared in Capstone Certificate in Computer Sciences for Professionals
Course Designation:	Level - Advanced L&S Credit - Counts as Liberal Arts and Science credit in L&S Grad 50% - Counts toward 50% graduate coursework requirement
Repeatable for Credit:	No

COMP SCI/E C E 561 – PROBABILITY AND INFORMATION THEORY IN MACHINE LEARNING

3 credits.

Probabilistic tools for machine learning and analysis of real-world datasets. Mathematical topics include Bayesian probability and statistics, random vectors, categorical random variables, entropy, mutual information, and source coding. Machine Learning topics include Bayes classification, Naive Bayes, generative modeling, decision trees and random forests, maximum likelihood estimation, principal component analysis, stochastic gradient methods, empirical risk minimization, entropy minimization, dimensionality reduction with random projections, and variational autoencoders. Previous exposure to numerical computing (e.g. Matlab, Python, Julia, R) required. Enroll Info: None

^ View details

Requisites:	(MATH 320, 340, 341, 375, or M E/COMP SCI/E C E 532 or concurrent enrollment) and (E C E 331, STAT/MATH 309, 431, STAT 311, 324, M E/STAT 424 or MATH 531) or grad/profsnl standing or declared in Capstone Certificate in Computer Sciences for Professionals
Course Designation:	Level - Advanced L&S Credit - Counts as Liberal Arts and Science credit in L&S Grad 50% - Counts toward 50% graduate coursework requirement
Repeatable for Credit:	No