ABET Review: Communications
Spring 2026

Course Offerings & Enrollments

Class	Title	Aut '24	Win '25	Spr '25	Sum '25	Aut '25	Win '26	Spr '26
EE 391	Probability for Information and Communication Engineering (4)			32			36	35
EE 400/446	Tiny Machine Learning for Ultra Low-Power Edge Computing (4)				27			54
EE 416	Random Signals for Communications & Signal Processing (4)	22				26		
EE 417/506	Modern Wireless Communications (4)		13/15				6/5	
EE 418	Network Security & Cryptography (4)	54				55		
EE 419/565	Introduction to Computer-Communication Networks (4)			55/14				45/8
EE 467	Machine Learning for Cybersecurity (4)						45	

Course Offerings & Enrollments

New courses

- **EE 391 (4), Probability for Information and Communication Engineering**, covers probabilistic concepts for ECE majors with applications to information/data science, signal processing, and communication systems. Includes accompanying Python labs.
  - Sufficient for satisfying the STAT 390, IND E 315, or STAT 391 prerequisite but not formalized yet.
  - Need to formalize now, and update and submit any course proposals to change the prerequisites where statistics is listed.
- **EE 446 (4), Tiny Machine Learning for Ultra Low-Power Edge Computing**, Studies the design and deployment of ML models on ultra low-power edge devices such as microcontrollers and embedded sensors. Covers development and build of responsive, private, and reliable ML applications at the edge with compact and accurate models under tight memory, compute, and energy budgets
- **EE 467 (4), Machine Learning for Cybersecurity**, covers anomaly detection, spam detection and IP blacklisting, use of NLP to improve performance in architecture identification. Optimization methods for determining adversarial inputs to bias the detection and classification outputs of deep neural networks. Generative Adversarial Networks.

End of Course Reports

- **EE 391** (Spr'25, Seelig): Missing, likely will not be completed.
- **EE 419** (Spr'25, Gadre): Changed the course into a programming-oriented hands-on real world experimentation course via a Gradescope feedback driven project to build the complete network stack to recreate a small YouTube from routing, physical, transport and application layers. Significant praise from the students received in feedback.
- **EE 416** (Aut'25, Ritcey): Updates included increasing the material on AI related topics in probability. Student prep is increasingly weak in basic math.
- **EE 418** (Aut'25, Poovendran): Developed a supplementary PowerPoint slide deck. Recorded and posted the videos. Updated the AI-Assistant for the course learning.
- **EE 391** (Win'26, Ritcey): Updated lectures and homeworks.
- **EE 417** (Win'26, Gadre): New templates were developed for the programming assignments in the course. This provided proper scaffolding for evaluation of the projects.
- **EE 467** (Win'26, Sahabandu): The course was updated to include a more structured assessment model combining bi-weekly programming assignments, GitHub-based labs, Canvas quizzes, pen-and-paper verification quizzes, and a team-based final project.

ABET Outcomes

Course	Offering	Faculty	SO1	SO2	SO3	SO4	SO5	SO6	SO7
EE 391	Spr'25	Seelig	*no*	*ABET*	*detail*	*assign.*	*for*	*this*	*offering*
	Win'26	Ritcey	*no*	*ABET*	*detail*	*assign.*	*for*	*this*	*offering*
	Spr'26	Parsons	*course*	*in*	*progress*				
EE 400/446	Sum'25	Sahabandu	*no*	*ABET*	*detail*	*assign.*	*for*	*this*	*offering*
	Spr'26	Sahabandu	*course*	*in*	*progress*				
EE 416	Aut'25	Ritcey	0/1/1/4						
EE 417	Win'26	Gadre			0/0/3/1				
EE 418	Aut'25	Poovendran					0/1/7/1		0/0/8/1
EE 419	Spr'25	Gadre	0/0/2/7			0/0/1/8	0/0/2/7		
	Spr'26	Gadre	*course*	*in*	*progress*				
EE 467	Win'26	Sahabandu	*no*	*ABET*	*detail*	*assign.*	*for*	*this*	*offering*

Student Outcomes: Novice/Developing/Competent/Exemplary
SO1: Solve Problems. SO2: Apply Design Considering Constraints. SO3: Communication. SO4: Ethics. SO5: Teams. SO6: Experiment & Analyze Data. SO7: Learning

Student Course Evaluations

Class	Instructor	Quarter	Responses	Adjusted Combined Median	Challenge Engagement Index	Average Hours/ Credit
EE 391	Seelig Ritcey	Spr'25 Win'26	16/32 8/36	3.8 4.5	4.5 4.1	1.9 1.8
EE 400/446	Sahabandu	Sum'25	21/27	4.0	4.6	2.5
EE 416	Ritcey	Aut'25	4/26	4.4	5.0	2.1
EE 417/506	Gadre	Win'26	9/12	4.8	4.9	2.3
EE 418	Poovendran	Aut'25	29/55	4.6	4.7	1.9
EE 419	Gadre	Spr'25	27/70	4.2	5.3	2.0
EE 467	Sahabandu	Win'26	39/45	4.4	4.0	1.7

Thoughts

- **EE 391**: Offer three times a year?
- **EE 418/419/446/467**: Offer twice a year?
- **EE 465:** Network and Web Security
- **EE 468:** Software and Embedded Systems Security

} Plan roll-out

- **New 300-level *Intro to Comms* course** in the works