

EEE 242: STATISTICAL SIGNAL PROCESSING

In Workflow

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Approval Path

1. Sun, 30 Sep 2018 23:14:01 GMT
Perry Heedley (pheedley): Approved for EEE Committee Chair
2. Mon, 01 Oct 2018 02:56:39 GMT
Fethi Belkhouche (fbelkhou): Approved for EEE Chair
3. Fri, 19 Oct 2018 18:11:07 GMT
Troy Topping (troy.topping): Rollback to EEE Chair for ECS Committee Chair
4. Thu, 03 Oct 2019 22:00:27 GMT
Fethi Belkhouche (fbelkhou): Rollback to EEE Committee Chair for EEE Chair
5. Fri, 11 Oct 2019 21:18:43 GMT
Mahyar Zarghami (mahyar.zarghami): Approved for EEE Committee Chair
6. Fri, 18 Oct 2019 17:06:22 GMT
Fethi Belkhouche (fbelkhou): Approved for EEE Chair
7. Fri, 18 Oct 2019 20:55:23 GMT
Janett Torset (torsetj): Approved for Academic Services
8. Fri, 25 Oct 2019 17:10:49 GMT
Troy Topping (troy.topping): Approved for ECS College Committee Chair
9. Fri, 25 Oct 2019 19:22:27 GMT
Kevan Shafizadeh (kevan): Approved for ECS Dean

Date Submitted: Sun, 30 Sep 2018 23:13:13 GMT

Viewing: EEE 242 : Statistical Signal Processing

Last edit: Fri, 25 Oct 2019 17:10:35 GMT

Changes proposed by: Perry Heedley (102011596)

Contact(s):

Name (First Last)	Email	Phone 999-999-9999
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Catalog Title:

Statistical Signal Processing

Class Schedule Title:

Stat Signal Processing

Academic Group: (College)

ECS - Engineering & Computer Science

Academic Organization: (Department)

Electrical and Electronic Engineering

Will this course be offered through the College of Continuing Education (CCE)?

No

Catalog Year Effective:

Fall 2019 (2019/2020 Catalog)

Subject Area: (prefix)

EEE - Electrical and Electronic Engineering

Catalog Number: (course number)

242

Course ID: (For administrative use only.)

127401

Units:

3

In what term(s) will this course typically be offered?

Fall, Spring

Does this course require a room for its final exam?

Yes, final exam requires a room

Does this course replace an existing experimental course?

No

This course complies with the credit hour policy:

Yes

Justification for course proposal:

The current catalog listing shows no prerequisites for EEE 242. We propose to add prerequisites and modify the course description to clarify the level of preparation required for EEE 242 students. Prerequisites are not enforced at registration due to a large percentage of international graduate students adding the course who have not been in our undergraduate program, but have taken similar coursework elsewhere. By listing the prerequisites, students coming from other institutions have a better understanding of the level of preparation recommended for the course.

Course Description: (Not to exceed 80 words and language should conform to catalog copy.)

Introduces the student to modern statistical approaches for solving electronic system noise problems. A few of the topics covered are: Stochastic processes, Wiener and Kalman filters, linear prediction, lattice predictors and singular-value decomposition. The knowledge of ENGR 120 and EEE 180 or equivalent courses is recommended to take this course.

Are one or more field trips required with this course?

No

Fee Course?

No

Is this course designated as Service Learning?

No

Does this course require safety training?

No

Does this course require personal protective equipment (PPE)?

No

Does this course have prerequisites?

Yes

Prerequisite:

ENGR 120, EEE 180

Prerequisites Enforced at Registration?

No

Does this course have corequisites?

No

Graded:

Letter

Approval required for enrollment?

No Approval Required

Course Component(s) and Classification(s):

Seminar

Seminar Classification

CS#05 - Seminar (K-factor=1 WTU per unit)

Seminar Units

3

Is this a paired course?

No

Is this course crosslisted?

No

Can this course be repeated for credit?

No

Can the course be taken for credit more than once during the same term?

No

Description of the Expected Learning Outcomes: Describe outcomes using the following format: "Students will be able to: 1), 2), etc."

1. Explain the fundamentals of stochastic signals and random noise characterization
2. Discuss minimum variance unbiased estimation
3. Implement linear and nonlinear Kalman filters such as the extended and the unscented filters
4. Discuss Bayesian estimation and Wiener filter
5. Implement linear prediction and estimation methods such as least squares methods.

Attach a list of the required/recommended course readings and activities:

SyllabusEEE242.pdf

Assessment Strategies: A description of the assessment strategies (e.g., portfolios, examinations, performances, pre-and post-tests, conferences with students, student papers) which will be used by the instructor to determine the extent to which students have achieved the learning outcomes noted above.

Exam 1 (ELO1, ELO2, ELO3)

Exam 2 (ELO 4, ELO 5)

Homework Assignments (ELO3, ELO5)

Is this course required in a degree program (major, minor, graduate degree, certificate?)

No

Does the proposed change or addition cause a significant increase in the use of College or University resources (lab room, computer)?

No

Will there be any departments affected by this proposed course?

No

I/we as the author(s) of this course proposal agree to provide a new or updated accessibility checklist to the Dean's office prior to the semester when this course is taught utilizing the changes proposed here.

I/we agree

University Learning Goals**Graduate (Masters) Learning Goals:**

Disciplinary knowledge

Is this course required as part of a teaching credential program, a single subject, or multiple subject waiver program (e.g., Liberal Studies, Biology) or other school personnel preparation program (e.g., School of Nursing)?

No

Is this a Graduate Writing Intensive (GWI) course?

No

Reviewer Comments:

Troy Topping (troy.topping) (Fri, 19 Oct 2018 18:11:07 GMT):Rollback: College committee was advised that EEE is reconsidering prerequisites.

Fethi Belkhouche (fbelkhou) (Thu, 03 Oct 2019 22:00:27 GMT):Rollback: To be discussed at the committee level

Key: 1745