

**ECE 421 and ECE 546 Fall 2021 Instruction Plan**  
**(Regular Online Instruction with Asynchronous Remote Section)**

**Course Number:** 14:332:421 / 16:332:546

**Course Name:** Wireless Communication System / Wireless Communications Technologies

**Course Type:** Cross-listed UG/Grad (will be held concurrently)

**Instructor Name:** Prof. Dario Pompili, PhD

**Assigned Course Meeting Times:** Mondays 7–10pm EST

**Instruction Format:** Recognizing that the university will operate in a mode where regular instruction will be complemented by a separate remote instruction section for students unable to attend the regular instruction sections, the instructor for this class has developed a plan for providing regular online instruction and asynchronous remote instruction to class participants.

Asynchronous instruction will involve recorded lectures that will be posted on the course Sakai website. Lectures will be recorded using Powerpoint Show or Google Slideshow, which provides an audio accompaniment for the slides.

All lectures will be available for remote students to watch asynchronously, at their convenience, recognizing that many students will be in different time zones.

At regular intervals, students in both modes of instruction will be polled for acquiring feedback necessary for keeping both modes of instruction on pace with each other. Further, the feedback will be used to ensure that the ABET educational goals and objectives of the class are being met.

**Textbook:** Fundamentals of Wireless Communication, David Tse and Pramod Viswanath, Cambridge University Press, 2005 (freely downloadable at: [https://web.stanford.edu/~dntse/wireless\\_book.html](https://web.stanford.edu/~dntse/wireless_book.html)). This textbook takes a unified view of the fundamentals of wireless communication and explains the web of concepts underpinning these advances at a level accessible to an audience with a basic background in probability and digital communication.

**Course Description:** This course is an introduction to the basic principles and applications of wireless communications. It covers the following topics: The wireless channel; Point-to-point communication: detection, diversity and channel uncertainty; Cellular systems: multiple access

and interference management; Capacity of wireless channels; Multiuser capacity and opportunistic communication; MIMO I: spatial multiplexing and channel modeling.

**Course Grading:** Recognizing the need to alter traditional course evaluation plan because some students will experience traditional lectures, while others will experience remote instruction, the instructor will adjust the evaluation format to provide a fair assessment across both modes of instruction. The specific grading breakdown the instructor will follow is:

Quizzes: 16%

Midterm exam (online synchronous): 20%

Final exam (cumulative, online synchronous): 25%

Course Project (semester-long project with 3 homework assignments, 13% each): 39%

Quizzes and exams will be given to remote students using online methods. All students will be required to acknowledge an Honor Pledge; in which they commit to ensuring the integrity of the grading process across both modes of instruction.

**Office Hours:** For students engaged in regular instruction, the instructor will make office hours available as per the usual practice. Since it will not be possible to hold office hours on campus for remote students, the instructor will interact with those students via email. Additionally, as necessary, the instructor will set up one-on-one office hour sessions using collaborative platforms, such as Zoom (at this link: <https://rutgers.zoom.us/my/pompili>) or WebEx (at this link: <https://rutgers.webex.com/meet/pompili>).

## Academic Integrity

115 College Avenue, New Brunswick | (848) 932-9414 | [academicintegrity.rutgers.edu](https://academicintegrity.rutgers.edu)

Academic integrity is essential to the success of the University's educational and research missions, and violations of academic integrity constitute serious offenses against the entire academic community. Every member of the University community bears a responsibility for ensuring that the highest standards of academic integrity are upheld.

The university asks that faculty include the following statement for students to sign on all exams and major assignments:

***On my honor, I have neither received nor given any unauthorized assistance on this examination (assignment, paper, quiz, etc.).***

**COVID-19 UPDATE:** New websites are available with resources for faculty and students on maintaining academic integrity in an online environment. The websites provide advice on how to avoid cheating and foster a culture of accountability as well as information on the new University Academic Integrity Policy and Procedures.

- Resources for Faculty: [nbprovost.rutgers.edu/academic-integrity](https://nbprovost.rutgers.edu/academic-integrity)
- Resources for Students: [nbprovost.rutgers.edu/academic-integrity-students](https://nbprovost.rutgers.edu/academic-integrity-students)

## Absences Verification and Student Support

Dean of Students Office | 88 College Ave | [deanofstudents.rutgers.edu/hours-and-location](https://deanofstudents.rutgers.edu/hours-and-location)

All students, including student athletes, are responsible for the timely notification of their instructors regarding any expected absences. They are also responsible for making up the missed work and/or exams according to an appropriate schedule agreed upon with their instructors. If students know in advance of an absence, then they must submit the Self-Reporting Absence Application ([sims.rutgers.edu/ssra](https://sims.rutgers.edu/ssra)).

Faculty should not ask students for verification of extended absence due to illness (including COVID-19), personal or family emergency, conference, corporate or graduate school interview, etc. Students should be directed to the [Dean of Students Office](#). The Dean of Students will request documentation from the students in order to verify their absence and will then email the students' professors.

The Dean of Students does not have a way to verify short-term absences and only provides notes when students have prolonged absences. Usually, FERPA and HIPPA limit the information the Dean of Students will provide regarding the reason for the absence, but if the student has a Dean of Students note, that means that there is indeed a serious and compelling reason for the absence.

Please note that the Dean of Students Office does NOT provide verification for students' personal obligations such as weddings, birthday celebrations, or other planned personal or family commitments. In

such cases, students would need to present and explain the situation to the instructor, and the final decisions for any accommodation is up to the instructor. Please visit [soe.rutgers.edu/absence-exams](https://soe.rutgers.edu/absence-exams) for more information on handling absence or exam conflicts.

**COVID-19 UPDATE:** A global pandemic results in illness – both among our students and among their family members. The accompanying economic dislocation has also led our students to scramble for whatever employment they can get; that employment may not always have predictable hours. Under these circumstances, professors may choose to offer flexibility in excused absences and attendance policies, and to allow make-up work. Network connectivity problems are sometimes an issue and professors are also urged, to the extent possible, to make material from synchronous course sessions available asynchronously.

## **Course or Semester Withdrawal**

**Online or Visit Engineering B100 | [soe.rutgers.edu/add-drop](https://soe.rutgers.edu/add-drop)**

- 10/25: Last day to withdraw from any class with a "W" grade using WebReg
- 11/08: Last day to withdraw from a SoE class (14:xxx:xxx) with a "W" grade (need permission from the student's advising dean)
- 11/22: Last day to withdraw from Rutgers for the Fall 2021 term (need approval from the student's advising dean).
- 12/13: Last day of classes

## **University Policy on Exam Scheduling and Conflicts**

**Office of Registrar and Scheduling**

[scheduling.rutgers.edu/scheduling/exam-scheduling/final-exam-policies](https://scheduling.rutgers.edu/scheduling/exam-scheduling/final-exam-policies)

[scheduling.rutgers.edu/scheduling/exam-scheduling/final-exam-schedule](https://scheduling.rutgers.edu/scheduling/exam-scheduling/final-exam-schedule)

Rutgers New Brunswick has a slightly modified [final exam grid](#) for the Fall 2021 semester due to the transitions to remote instruction. This is mainly in order to reflect remote-asynchronous course sections, which have a unique final exam scheduling process.

## **Tutoring, Academic Coaching, Learning Support**

**Rutgers Learning Centers | (848) 445-0986 | [lrc.rutgers.edu](https://lrc.rutgers.edu) & [success.rutgers.edu](https://success.rutgers.edu)**

Academic coaching is a comprehensive service for students who want to improve their academic and self-management skills, such as time management, organization and study skills. The Rutgers Learning Centers offer this support, along with tutoring and study groups to help students achieve their academic goals along with self-advocacy and independent, life-long learning. They also have information on how to be a successful learner in an online environment.

## **Student Wellness**

### **Counseling, ADAP & Psychiatric Services (CAPS)**

**17 Senior Street, New Brunswick | (848) 932-7884**

**[health.rutgers.edu/medical-counseling-services/counseling](https://health.rutgers.edu/medical-counseling-services/counseling)**

CAPS is a university mental health support service that includes counseling, alcohol and other drug assistance, and psychiatric services staffed by a team of professionals within Rutgers Health Services to support students' efforts to succeed at Rutgers University. CAPS offers a variety of services that include: individual therapy, group therapy and workshops, crisis intervention, referral to specialists in the community and consultation and collaboration with campus partners. They continue to be available online.

### **Violence Prevention & Victim Assistance (VPVA)**

**3 Bartlett Street, New Brunswick | (848) 932-1181 | [vpva.rutgers.edu](https://vpva.rutgers.edu)**

The Office for Violence Prevention and Victim Assistance provides confidential crisis intervention, counseling and advocacy for victims of sexual and relationship violence and stalking to students, staff and faculty. To speak with someone immediately, call 848-932-1181.

### **Office of Disability Services**

**Lucy Stone Hall, Suite A145, Livingston Campus | (848) 445-6800 | [ods.rutgers.edu](https://ods.rutgers.edu)**

Rutgers University welcomes students with disabilities into all of the University's educational programs. In order to receive consideration for reasonable accommodations, a student with a disability must contact the Office of Disability Services, participate in an intake interview, and provide documentation. If the documentation supports a student's request for reasonable accommodations, the Office of Disability Services will provide you with a Letter of Accommodations. Students then share this letter with their instructors and discuss the accommodations with them as early in the courses as possible.

### **SoE Office of Academic Services**

**Engineering B100, Busch Campus | (848) 445-2212 | [soe.rutgers.edu/oas/advising](https://soe.rutgers.edu/oas/advising)**

Undergraduate advisors and deans at the School of Engineering are available to assist students with inquiries related to course planning, academic policies, professional development, scholastic standing, degree progress, withdrawal options, and more.

**COVID-19 UPDATE:** Advising will be offered in person and online. Students can visit [soe.rutgers.edu/oas/advising](https://soe.rutgers.edu/oas/advising) for appointment or drop-in meetings with an advisor. Drop-in advising will only be online.