Cover Sheet: Request 16114

EEE3396C Solid-State Electronic Devices

Info

Process	Course|Modify|Ugrad/Pro
Status	Pending at PV - University Curriculum Committee (UCC)
Submitter	Shannon Chillingworth schill@ece.ufl.edu
Created	4/20/2021 2:15:41 PM
Updated	5/3/2021 1:32:36 PM
Description of request	Change lab designation and reduce course credits.

Actions

Step	Status	Group	User	Comment	Updated
Department	Approved	ENG - Electrical and Computer Engineering 19050000	Robert Fox	Remove lab and reduce 4 credits to 3.	4/20/2021
No document changes					
College	Approved	ENG - College of Engineering	Heidi Dublin	Approved by the Curriculum Commitee	4/30/2021
No document changes					
University Curriculum Committee	Pending	PV - University Curriculum Committee (UCC)			4/30/2021
No document changes					
Statewide Course Numbering System					
No document changes					
Office of the Registrar					
No document changes					
Catalog					
No document changes					
Student Academic Support System					
No document changes					
College Notified					
No document changes					

Course|Modify for request 16114

Info

Request: EEE3396C Solid-State Electronic Devices
Description of request: Change lab designation and reduce course credits.
Submitter: Shannon Chillingworth schill@ece.ufl.edu
Created: 9/3/2021 3:56:40 PM
Form version: 4

Responses

Current Prefix
Enter the current three letter code (e.g., POS, ATR, ENC).

> Response:
> EEE

Course Level
Select the current one digit code preceding the course number that indicates the course level at which the course is taught (e.g., 1=freshman, 2=sophomore, etc.).
Note: 5000 level courses must be submitted through the undergraduate new course process

> Response:
> 3

Number
Enter the current three digit code indicating the specific content of the course based on the SCNS taxonomy and course equivalency profiles.

> Response:
> 396

Lab Code
Enter the current lab code. This code indicates whether the course is lecture only (None), lab only (L), or a combined lecture and lab (C).

> Response:
> C

Course Title
*Enter the current title of the course as it appears in the Academic Catalog.There is a 100 character limit for course titles. *

> Response:
> Solid-State Electronic Devices

Effective Term
Select the requested term that the course change(s) will first be implemented. Selecting "Earliest" will allow the change to be effective in the earliest term after SCNS approval. If a specific term and year are selected, this should reflect the department's expectations. Courses cannot be changed retroactively, and therefore the actual

effective term cannot be prior to SCNS approval, which must be obtained prior to the first day of classes for the effective term. SCNS approval typically requires at least 6 weeks after approval of the course change at UF.

Response:
Fall

Effective Year
Select the requested year that the course change will first be implemented. See preceding item for further information.

Response:
2022

Requested Action
Indicate whether the change is for termination of the course or any other change. If the latter is selected, all of the following items must be completed for any requested change.

Response:
Other (selecting this option opens additional form fields below)

Change Course Prefix?

Response:
No

Change Course Level?
Note that a change in course level requires submission of a course syllabus.

Response:
No

Change Course Number?

Response:
No

Change Lab Code?
Note that a change in lab code requires submission of a course syllabus.

Response:
Yes

Current Lab Code

Response:
C

Proposed Lab Code

Response:
None

Change Course Title?

Response:
No

Change Transcript Title?
*If changing the course title a new transcript title is also required. *

Response:
No

Change Credit Hours?
Note that a change in credit hours requires submission of a course syllabus.

Response:
Yes

Current Credit Hours

Response:
4

Proposed Credit Hours

Response:
3

Change Variable Credit?
Note that a change in variable credit status requires submission of a course syllabus.

Response:
No

Change S/U Only?

Response:
No

Change Contact Type?

Response:
No

Change Rotating Topic Designation?

Response:
No

Change Repeatable Credit?
Note that a change in repeatable credit status requires submission of a course syllabus.

Response:
No

Change Course Description?
Note that a change in course description requires submission of a course syllabus.

Response:
No

Change Prerequisites?

Response:
No

Change Co-requisites?

Response:

No

Rationale
Please explain the rationale for the requested change.

Response:
The learning objectives are not supported by laboratory assignments. In addition, the nature of the course makes it difficult to synchronize appropriate laboratory assignments. We are removing 3 contact hours/1 credit hour.

Solid-State Electronic Devices
EEE 3396C
Sections XXXX
Class Periods: MWF 7 (1:55pm-2:45pm)
Location: Classroom location
Academic Term: Fall/Spring NNNN

Instructor:
Name: Ant Ural
Email Address: antural@ece.ufl.edu
Office Phone Number: 392-9753
Office Hours: Days of week, hours available, office location

Teaching Assistant/Peer Mentor/Supervised Teaching Student:
Please contact through the Canvas website
- Name, email address, office location, office hours
- Name, email address, office location, office hours

Course Description
Introduces the principles of semiconductor electron device operation.
3 Credits
Grading Scheme: Letter Grade

Course Pre-Requisites / Co-Requisites
EEL 3008

Course Objectives
To present the theoretical and practical background of device physics so that students understand and are able to design and optimize the charge transport properties of semiconductor materials and devices.

Materials and Supply Fees
n/a

Professional Component (ABET):
This course consists of 3 credits of Engineering Science.

Relation to Program Outcomes (ABET):

Outcome	Coverage
1. An ability to identify, formulate, and solve complex engineering problems by applying principles of engineering, science, and mathematics	High
2. An ability to apply engineering design to produce solutions that meet specified needs with consideration of public health, safety, and welfare, as well as global, cultural, social, environmental, and economic factors	Low
3. An ability to communicate effectively with a range of audiences	Low
4. An ability to recognize ethical and professional responsibilities in engineering situations and make informed judgments, which must consider the	Low

impact of engineering solutions in global, economic, environmental, and societal contexts	
5. An ability to function effectively on a team whose members together provide leadership, create a collaborative and inclusive environment, establish goals, plan tasks, and meet objectives	
6. An ability to develop and conduct appropriate experimentation, analyze and interpret data, and use engineering judgment to draw conclusions	
7. An ability to acquire and apply new knowledge as needed, using appropriate learning strategies	High

Required Textbooks and Software
- Solid State Electronic Devices, 7th edition
- Ben Streetman and Sanjay Banerjee
- Publisher: Pearson
- ISBN: 0133356035

Recommended Materials: n/a

Course Schedule

Weeks 1-2:   Chapter 1: INTRODUCTION TO SEMICONDUCTOR MATERIALS
                     Homework Set 1 (Week 2)

Week 3:   Chapter 2: ATOMIC STRUCTURE AND THE PERIODIC TABLE
                     Homework Set 2 (Week 3)

Weeks 4-5:   Chapter 3: ENERGY BANDS AND CHARGE CARRIERS IN SEMICONDUCTORS
                     Homework Set 3 (Week 5)

Weeks 6-7:   Chapter 4: EXCESS CARRIERS IN SEMICONDUCTORS (THE CONTINUITY EQUATION)
                     Homework Set 4 (Week 7)

Weeks 8-9-10:   Chapter 5: p-n JUNCTIONS
                     Midterm Exam (Week 8)
                     Homework Set 5 (Week 10)

Weeks 11-12-13:   Chapter 6: METAL-OXIDE-SEMICONDUCTOR FIELD EFFECT TRANSISTOR (MOSFET)
                     Homework Set 6 (Week 12)

Weeks 13-14:   Chapter 7: BIPOLAR JUNCTION TRANSISTOR (BJT)
                     Homework Set 7 (Week 14)

Weeks 14-15:   Chapter 8: OPTOELECTRONIC DEVICES
                     Homework Set 8 (Week 15)

Finals Week: Final Exam

Attendance Policy, Class Expectations, and Make-Up Policy

Excused absences must be consistent with university policies in the undergraduate catalog (https://catalog.ufl.edu/ugrad/current/regulations/info/attendance.aspx) and require appropriate documentation.

Evaluation of Grades

Assignment	Total Points	Percentage of Final Grade
Homework Sets (8)	10 each	15%
Midterm Exam	100	40%
Final Exam	100	45%
		100%

There will be 8 homework assignments throughout the semester, the material of which will be drawn from the textbook and lectures. Homework exercises serve to provide practice fundamental methods learned in class. Homework assignments must be done individually, and their due dates will be announced in advance.

Grading Policy
The following is given as an example only.

Percent	Grade	Grade Points
93.4 - 100	A	4.00
90.0 - 93.3	A-	3.67
86.7 - 89.9	B+	3.33
83.4 - 86.6	B	3.00
80.0 - 83.3	B-	2.67
76.7 - 79.9	C+	2.33
73.4 - 76.6	C	2.00
70.0 - 73.3	C-	1.67
66.7 - 69.9	D+	1.33
63.4 - 66.6	D	1.00
60.0 - 63.3	D-	0.67
0 - 59.9	E	0.00

More information on UF grading policy may be found at:
https://catalog.ufl.edu/ugrad/current/regulations/info/grades.aspx

Students Requiring Accommodations
Students with disabilities who experience learning barriers and would like to request academic accommodations should connect with the disability Resource Center by visiting https://disability.ufl.edu/students/get-started/. It is important for students to share their accommodation letter with their instructor and discuss their access needs, as early as possible in the semester.

Course Evaluation
Students are expected to provide professional and respectful feedback on the quality of instruction in this course by completing course evaluations online via GatorEvals. Guidance on how to give feedback in a professional and respectful manner is available at https://gatorevals.aa.ufl.edu/students/. Students will be notified when the evaluation period opens, and can complete evaluations through the email they receive from GatorEvals, in their Canvas course menu under GatorEvals, or via https://ufl.bluera.com/ufl/. Summaries of course evaluation results are available to students at https://gatorevals.aa.ufl.edu/public-results/.

University Honesty Policy

UF students are bound by The Honor Pledge which states, "We, the members of the University of Florida community, pledge to hold ourselves and our peers to the highest standards of honor and integrity by abiding by the Honor Code. On all work submitted for credit by students at the University of Florida, the following pledge is either required or implied: "On my honor, I have neither given nor received unauthorized aid in doing this assignment." The Honor Code (https://sccr.dso.ufl.edu/policies/student-honor-code-student-conduct-code/) specifies a number of behaviors that are in violation of this code and the possible sanctions. Furthermore, you are obligated to report any condition that facilitates academic misconduct to appropriate personnel. If you have any questions or concerns, please consult with the instructor or TAs in this class.

Commitment to a Safe and Inclusive Learning Environment

The Herbert Wertheim College of Engineering values broad diversity within our community and is committed to individual and group empowerment, inclusion, and the elimination of discrimination. It is expected that every person in this class will treat one another with dignity and respect regardless of gender, sexuality, disability, age, socioeconomic status, ethnicity, race, and culture.

If you feel like your performance in class is being impacted by discrimination or harassment of any kind, please contact your instructor or any of the following:
• Your academic advisor or Graduate Program Coordinator
• Robin Bielling, Director of Human Resources, 352-392-0903, rbielling@eng.ufl.edu
• Curtis Taylor, Associate Dean of Student Affairs, 352-392-2177, taylor@eng.ufl.edu
• Toshikazu Nishida, Associate Dean of Academic Affairs, 352-392-0943, nishida@eng.ufl.edu

Software Use

All faculty, staff, and students of the University are required and expected to obey the laws and legal agreements governing software use. Failure to do so can lead to monetary damages and/or criminal penalties for the individual violator. Because such violations are also against University policies and rules, disciplinary action will be taken as appropriate. We, the members of the University of Florida community, pledge to uphold ourselves and our peers to the highest standards of honesty and integrity.

Student Privacy

There are federal laws protecting your privacy with regards to grades earned in courses and on individual assignments. For more information, please see: https://registrar.ufl.edu/ferpa.html

Campus Resources:

Health and Wellness

U Matter, We Care:
Your well-being is important to the University of Florida. The U Matter, We Care initiative is committed to creating a culture of care on our campus by encouraging members of our community to look out for one another and to reach out for help if a member of our community is in need. If you or a friend is in distress, please contact umatter@ufl.edu so that the U Matter, We Care Team can reach out to the student in distress. A nighttime and weekend crisis counselor is available by phone at 352-392-1575. The U Matter, We Care Team can help connect students to the many other helping resources available including, but not limited to, Victim Advocates, Housing staff, and the Counseling and Wellness Center. Please remember that asking for help is a sign of strength. In case of emergency, call 9-1-1.

Counseling and Wellness Center: http://www.counseling.ufl.edu/cwc, and 392-1575; and the University Police Department: 392-1111 or 9-1-1 for emergencies.

Sexual Discrimination, Harassment, Assault, or Violence
If you or a friend has been subjected to sexual discrimination, sexual harassment, sexual assault, or violence contact the **Office of Title IX Compliance**, located at Yon Hall Room 427, 1908 Stadium Road, (352) 273-1094,

Sexual Assault Recovery Services (SARS)
Student Health Care Center, 392-1161.
University Police Department at 392-1111 (or 9-1-1 for emergencies), or http://www.police.ufl.edu/.

E-learning technical suppor*t*, 352-392-4357 (select option 2) or e-mail to Learning-support@ufl.edu. https://lss.at.ufl.edu/help.shtml.

Career Connections Center, https://career.ufl.edu/, 392-1601. Reitz Union. Career development assistance and counseling.

Library Support, http://cms.uflib.ufl.edu/ask. Various ways to receive assistance with respect to using the libraries or finding resources.

Teaching Center, Broward Hall, 392-2010 or 392-6420. General study skills and tutoring. https://teachingcenter.ufl.edu/.

Writing Studio, 302 Tigert Hall*, 846-1138. Help brainstorming, formatting, and writing papers. https://writing.ufl.edu/writing-studio/.

Student Complaints Campus*:* https://care.dso.ufl.edu.

On-Line Students Complaints*:* http://www.distance.ufl.edu/student-complaint-process.