To: Undergraduate Curriculum Committee

Thru: Dr. Mark Archambault, Associate Dean for Academics, College of Engineering and Science

From: Dr. Philip Bernhard, Head, Department of Computer Engineering and Sciences

Re: Changes to the course schedule for the BS in Computer Science

Date: February 5, 2020

The Department of Computer Engineering and Sciences proposes the following changes to the course schedule for the existing Bachelor of Science program in Computer Science. The goal of these changes is to enable students to gain the appropriate background knowledge for courses that appear later in the program. This will also aid in the distribution of teaching loads for the faculty.

- There are no changes to the schedule for the Freshman and Sophomore years.
- Some courses in the Junior and Senior years have been moved to a different semester and those changes are shown in the attached pages.
- There are no courses added to or removed from the program and there are no changes to the total number of credit hours for the program nor to the number of credit hours per semester.
- The courses used for assessment of the program do not change.

The following pages show the proposed schedule changes for the BS in Computer Science. The first page shows the first two years of the BS program, which is unchanged. The existing third and fourth years are then shown, followed by the proposed new schedule for those years.
The addition or removal of any graduation requirement in a major or minor requires that this form, accompanied by supporting documentation, be completed and approved as indicated below. Incomplete or incorrect forms will not be processed.

COLLEGE  Engineering and Science  DEPARTMENT  Computer Engineering and Sciences

DEGREE LEVEL  Bachelor  PROGRAM TITLE  Computer Science

TO BE INITIATED WITH CATALOG YEAR 2020/2021  CHANGE REQUESTED FOR  □ major program  □ minor program 7071

Program changes are effective beginning with the fall term in which they appear in the University Catalog.

☐ Yes  ☐ No  Will this change impact the program’s assessment process? If yes, attach a description of how the assessment will be impacted and the new process.

DESCRIPTION OF REQUESTED CHANGES  Attach a more detailed description and any supporting documentation.

Change the course schedule for the Junior and Senior years of the BS in Computer Science as shown in the attached document. No change to the total number of credits. No change to the required or elective courses. No change to the assessment of the program.

Approvals: On completion of appropriate department approvals, submit form to Chair, Graduate Council, or Chair, Undergraduate Curriculum Committee, for approval below and forward to the Catalog & Curriculum Manager.

Original Date

Chair, Graduate Council Date

OR

Department Head / Major Program Chair Date

Chair, Undergraduate Curriculum Committee Date

Dean, Associate Dean Date

REGISTRAR’S USE ONLY

☐ Yes  ☐ No  Update completed Date  Initials

CAPP / Degree Evaluation  Academic Year

☐ Yes  ☐ No  Update completed Date  Initials

Catalog Management System  Academic Year

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150 West University Boulevard, Melbourne, FL 32901-6975 • 321-674-8114 • Fax 321-674-7827

RGR-409-519
There are no changes to the Freshman and Sophomore years.

**Freshman Year**

**Fall (16 credit hours)**

- COM 1101 Composition and Rhetoric
- CSE 1001 Fundamentals of Software Development 1
- CSE 1101 Computing Disciplines and Careers 1
- CSE 1400 Applied Discrete Mathematics
- FYE 1000 University Experience
- MTH 1001 Calculus 1 \ or \ MTH 1010 Honors Calculus 1

**Spring (18 credit hours)**

- COM 1102 Writing About Literature
- CSE 1002 Fundamentals of Software Development 2
- CSE 2120 Computer Organization and Machine Programming
- MTH 1002 Calculus 2 \ or \ MTH 1020 Honors Calculus 2
- Restricted Elective (laboratory science*) Credit Hours: 4

**Sophomore Year**

**Fall (17 credit hours)**

- COM 2223 Scientific and Technical Communication
- CSE 2010 Algorithms and Data Structures
- Restricted Elective (laboratory science*) Credit Hours: 4

**Select first HUM Core Course:**

- HUM 2051 Civilization 1: Ancient Through Medieval
- HUM 2053 Introduction to Asian Civilization
- HUM 2141 World Art History 1: Pre-History to Early Global Awareness
- HUM 2211 British Literature and Culture
- HUM 2212 British and American Literature 1
- HUM 2331 American History: Pre-Columbian to Civil War Era
- HUM 2551 Survey of Ancient and Medieval Philosophy

**Select second HUM Core Course:**

- HUM 2052 Civilization 2: Renaissance Through Modern
- HUM 2054 Introduction to Asian Civilization 2
- HUM 2142 World Art History 2: Early Modern to Post-Colonial
- HUM 2212 British and American Literature 1 (may not be repeated for credit)
- HUM 2213 British and American Literature 2
- HUM 2332 American History: From Reconstruction to the Present
- HUM 2552 Survey of Modern and Contemporary Philosophy

**Spring (15 credit hours)**

- CSE 2050 Programming in a Second Language
- CSE 2400 Applied Statistics \ or \ MTH 2401 Probability and Statistics
- CSE 2410 Introduction to Software Engineering
- MTH 3102 Introduction to Linear Algebra
- Humanities Elective (HU) 3000-level or higher recommended Credit Hours: 3
This page shows the existing Junior and Senior years for the BS in Computer Science.

Junior Year

**Fall (15 credit hours)**

- CSE 4001 Operating Systems Concepts
- CSE 4020 Database Systems
- CSE 4250 Programming Language Concepts
- Restricted Elective (CSE) Credit Hours: 3
- Restricted Elective (MTH or Science) Credit Hours: 3

**Spring (16 credit hours)**

- CSE 3100 Junior Project
- CSE 3120 Computer Architecture and Assembly Programming
- CSE 3231 Computer Networks
- CSE 4083 Formal Languages and Automata Theory
- Restricted Elective (MTH or Science) Credit Hours: 3
- Restricted Elective (Social Science) Credit Hours: 3

Senior Year

**Fall (15 credit hours)**

- CSE 4081 Introduction to Analysis of Algorithms
- CSE 4101 Computer Science Projects 1 (Q)
- CSE 4301 Introduction to Artificial Intelligence
- Free Elective Credit Hours: 3
- Technical Elective Credit Hours: 3

**Spring (15 credit hours)**

- CSE 4102 Computer Science Projects 2 (Q)
- CSE 4232 Computer Network Programming
- CSE 4251 Compiler Theory
- Free Elective Credit Hours: 3
- Restricted Electives (CSE) Credit Hours: 3

**Total Credits Required: 127**
This page shows the proposed changes to the Junior and Senior years (highlighted in bold type).

### Junior Year

**Fall (15 credit hours)**

- CSE 3120 Computer Architecture and Assembly Programming
- CSE 3231 Computer Networks
- CSE 4001 Operating Systems Concepts
- CSE 4020 Database Systems
- Restricted Elective (MTH or Science) Credit Hours: 3

**Spring (16 credit hours)**

- CSE 3100 Junior Project
- CSE 4083 Formal Languages and Automata Theory
- CSE 4232 Computer Network Programming
- CSE 4250 Programming Language Concepts
- Restricted Elective (MTH or Science) Credit Hours: 3
- Restricted Elective (Social Science) Credit Hours: 3

### Senior Year

**Fall (15 credit hours)**

- CSE 4081 Introduction to Analysis of Algorithms
- CSE 4101 Computer Science Projects 1 (Q)
- CSE 4251 Compiler Theory
- Free Elective Credit Hours: 3
- Restricted Elective (CSE) Credit Hours: 3

**Spring (15 credit hours)**

- CSE 4102 Computer Science Projects 2 (Q)
- CSE 4301 Introduction to Artificial Intelligence
- Free Elective Credit Hours: 3
- Restricted Electives (CSE) Credit Hours: 3
- Technical Elective Credit Hours: 3

**Total Credits Required: 127**