TO: Undergraduate Curriculum Committee
FROM: Dr. Ronaldo Menezes, Program Chair, Computer Science and Software Engineering
CC: Dr. Marco Carvalho, Dean, School of Computing
DATE: February 15, 2017
RE: Changes to prerequisites for selected courses

Faculty in the School of Computing have reviewed the curriculum for the Bachelor of Science in Computer Science and determined that a realignment of prerequisites for certain courses will provide greater flexibility for students while still preparing them sufficiently for those courses.

Therefore, we propose the following changes in prerequisites for the courses specified below. The proposed changes do not change the set of courses required for graduation in the Bachelor of Science in Computer Science, nor do they change the program outcomes.

<table>
<thead>
<tr>
<th>Course</th>
<th>Current Prerequisites</th>
<th>Proposed Prerequisites</th>
</tr>
</thead>
<tbody>
<tr>
<td>CSE 2050 – Programming in a Second Language</td>
<td>CSE 1502 or CSE 2120</td>
<td>CSE 2010</td>
</tr>
<tr>
<td>CSE 3120 – Computer Architecture and Assembly Programming</td>
<td>CSE 2050 and CSE 2120</td>
<td>CSE 2010 and CSE 2120</td>
</tr>
<tr>
<td>CSE 4001 – Operating Systems Concepts</td>
<td>CSE 2010 and CSE 2050 or ECE 2552 and ECE 3551</td>
<td>CSE 2010 and CSE 2120 or ECE 2552</td>
</tr>
<tr>
<td>CSE 4251 – Compiler Theory</td>
<td>CSE 2010 and CSE 2120 or ECE 2552 and ECE 3551</td>
<td>CSE 2010 and CSE 2120</td>
</tr>
</tbody>
</table>

In addition, the elective course CSE 3231 – Computer Networks has previously been approved for the Fall 2017 catalog and we propose making that course the prerequisite for the existing elective course CSE 4232 – Computer Network Programming. Note that CSE 2010 is the prerequisite for CSE 3231.

<table>
<thead>
<tr>
<th>Course</th>
<th>Current Prerequisites</th>
<th>Proposed Prerequisites</th>
</tr>
</thead>
<tbody>
<tr>
<td>CSE 4232 – Computer Network Programming</td>
<td>CSE 2010 or CSE 2050 or ECE 2552</td>
<td>CSE 3231</td>
</tr>
</tbody>
</table>

We have attached documentation for the proposed changes in prerequisite requirements.
### Florida Institute of Technology

**REQUEST TO CHANGE THE REQUIREMENTS FOR A COURSE**

*Any change, addition or removal of any restriction, or change in credit hours or availability for a course requires this form, accompanied by any supporting documentation, be completed and approved as indicated below.*

**COLLEGE**  School of Computing  
**DEPARTMENT**  Computer Sciences Program  

**REQUEST IS FOR CHANGE IN COURSE**  CSE 2050  
**Programming in a Second Language**  

**Prefix**  CSE  
**Number**  2050  
**Course Title**  Programming in a Second Language  

**TO BE INCLUDED IN 2017/2018 CATALOG**

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

**IS REQUEST FOR A CHANGE IN THE NAME LISTED ABOVE?**  
☐ Yes  ☑ No  
If yes, requested name__________________________

**IS REQUEST FOR A CHANGE IN CREDITS FOR COURSE LISTED ABOVE?**  
☐ Yes  ☑ No  
If yes, current credits__________________________ requested credits__________________________

**IS REQUEST TO CHANGE RESTRICTIONS FOR COURSE LISTED ABOVE?**  
☐ Yes  ☑ No  
If yes, please check all that apply:

- Add  ☑ Remove  ☑ Prerequisite  ☑ Corequisite  
  CSE 1502  
  Prefix: CSE  
  Number: 1502  
  ☑ and  ☑ or

- Add  ☑ Remove  ☑ Prerequisite  ☑ Corequisite  
  CSE 2120  
  Prefix: CSE  
  Number: 2120  
  ☑ and  ☑ or

- Add  ☑ Remove  ☑ Other Restrictions*  ☑ Yes  ☑ No  
  If yes, please use box below:

*Other restrictions may include changing the probe mode (IE, SOL, A-F, CEU), deactivating a course already in the system, majors or class levels restricted from registration, or other restrictions.

Please enter the complete prerequisite/restriction list as it should appear if this change is approved:

Prerequisite: CSE 2010

☐ Yes  ☑ No  Is this request for the course to be used to measure program-level student learning outcomes?

☐ Yes  ☑ No  Is this request for the course to satisfy the scholarly inquiry requirement? If yes, attach "Q" materials for review.

☐ Yes  ☑ No  Will this change impact any existing programs? If yes, attach "Changing Graduation Requirements" form for each program that is impacted.

**APPROVALS: Once appropriate department approvals are completed, submit to the Office of Graduate Programs, or Undergraduate Curriculum Committee Chair for placement on agenda.**

1) 2/15/17  
Originator  
2) 2/15/17  
Department Head/Program Chair  
3) 2/15/17  
Dean or Associate Dean  
4)  
Chair, Graduate Council  
Date: ____________

OR

Chair, Undergraduate Curriculum Committee  
Date: ____________

**CATALOG & CURRICULUM MANAGER'S USE ONLY**

<table>
<thead>
<tr>
<th>SCACRSE</th>
<th>SCADETL</th>
<th>SCAPREQ</th>
</tr>
</thead>
<tbody>
<tr>
<td>SCABASE</td>
<td>SCARRES</td>
<td>ACATALOG</td>
</tr>
</tbody>
</table>

Operator Initials: ____________ Date: ____________

**DISTRIBUTION**

Original – Catalog & Curriculum Manager  
Copy – Academic Unit

Florida Institute of Technology • Office of the Registrar  
150 West University Boulevard, Melbourne, FL 32901-6975 • (321) 674-8114 • Fax (321) 674-7827  
RGR-254-1015
REQUEST TO CHANGE THE REQUIREMENTS FOR A COURSE

Any change, addition or removal of any restriction, or change in credit hours or availability for a course requires this form, accompanied by any supporting documentation, be completed and approved as indicated below.

COLLEGE: School of Computing
DEPARTMENT: Computer Sciences Program

REQUEST IS FOR CHANGE IN COURSE: CSE 3120

Computer Architecture and Assembly Programming

Prefix: CSE
Number: 3120
Course Title:

TO BE INCLUDED IN 2017/18 CATALOG
Course changes are effective beginning with the fall term in which they appear in the University Catalog.

IS REQUEST FOR A CHANGE IN THE NAME LISTED ABOVE? ☐ Yes ☑ No
If yes, requested name:

IS REQUEST FOR A CHANGE IN CREDITS FOR COURSE LISTED ABOVE? ☐ Yes ☑ No
If yes, current credits requested credits:

IS REQUEST TO CHANGE RESTRICTIONS FOR COURSE LISTED ABOVE? ☐ Yes ☑ No
If yes, please check all that apply:
☐ Add ☐ Remove ☐ Prerequisite ☐ Corequisite
Prefix: CSE
Number: 2050
and or

☐ Add ☐ Remove ☐ Prerequisite ☐ Corequisite
Prefix: CSE
Number: 2010
and or

☐ Add ☐ Remove ☐ Other Restrictions* ☐ Yes ☑ No
If yes, please use box below:

*Other restrictions may include changing the grade mode (P/F, S/N, A-F, CR), deactivating a course already in the system, majors or class levels restricted from registration, or other restrictions.

Please enter the complete prerequisite/restriction list as it should appear if this change is approved:

Prerequisite: CSE 2010, CSE 2120

☐ Yes ☑ No Is this request for the course to be used to measure program-level student learning outcomes?

☐ Yes ☑ No Is this request for the course to satisfy the scholarly inquiry requirement? If yes, attach "Q" materials for review.

☐ Yes ☑ No Will this change impact any existing programs? If yes, attach "Changing Graduation Requirements" form for each program that is impacted.

APPROVALS: Once appropriate department approvals are completed, submit to the Office of Graduate Programs, or Undergraduate Curriculum Committee Chair for placement on agenda.

1) Orig: [Signature] 2/17/17
2) Chair, Department Head/Program Chair 2/15/17
3) Chair, Associate Dean 2/15/17
4) Chair, Graduate Council OR Chair, Undergraduate Curriculum Committee

CATALOG & CURRICULUM MANAGER'S USE ONLY
SCACRE SCADTM SCAPREQ
SCBASE SCARRS ACALOG Operator Initials Date

DISTRIBUTION
Original – Catalog & Curriculum Manager
Copy – Academic Unit
REQUEST TO CHANGE THE REQUIREMENTS FOR A COURSE

Any change, addition or removal of any restriction, or change in credit hours or availability for a course requires this form, accompanied by any supporting documentation, be completed and approved as indicated below.

COLLEGE: School of Computing
DEPARTMENT: Computer Sciences Program

REQUEST IS FOR CHANGE IN COURSE: CSE 4001
Course Title: Operating Systems Concepts

TO BE INCLUDED IN 2017/2018 CATALOG
Course changes are effective beginning with the fall term in which they appear in the University Catalog.

IS REQUEST FOR A CHANGE IN THE NAME LISTED ABOVE? ☐ Yes ☐ No
If yes, requested name:

IS REQUEST FOR A CHANGE IN CREDITS FOR COURSE LISTED ABOVE? ☐ Yes ☐ No
If yes, current credits requested credits:

IS REQUEST TO CHANGE RESTRICTIONS FOR COURSE LISTED ABOVE? ☐ Yes ☐ No
If yes, please check all that apply:

☐ Add ☐ Remove ☐ Prerequisite ☐ Corequisite
CSE 2120 ☐ and ☐ or

☐ Add ☐ Remove ☐ Prerequisite ☐ Corequisite
ECE 3551 ☐ and ☐ or

☐ Add ☐ Remove ☐ Other Restrictions*
☐ Yes ☐ No
If yes, please use box below:

*Other restrictions may include changing the grade mode (P/F, S/F, A-E, CO), deactivating a course already in the system, majors or class levels restricted from registration, or other restrictions.
Please enter the complete prerequisite/restriction list as it should appear if this change is approved:

Remove prerequisites: CSE 2050
New prerequisite list: CSE 2010 and CSE 2120 or ECE 2552

☐ Yes ☐ No
Is this request for the course to be used to measure program-level student learning outcomes?

☐ Yes ☐ No
Is this request for the course to satisfy the scholarly inquiry requirement? If yes, attach "Q" materials for review.

☐ Yes ☐ No
Will this change impact any existing programs? If yes, attach "Changing Graduation Requirements" form for each program that is impacted.

APPROVALS: Once appropriate department approvals are completed, submit to the Office of Graduate Programs, or Undergraduate Curriculum Committee Chair for placement on agenda.

1) Originator 2/17/17
2) Department Head/Program Chair 2/18/17
3) Dean or Associate Dean 2/18/17
4) Chair, Graduate Council Date
OR
Chair, Undergraduate Curriculum Committee Date

CATALOG & CURRICULUM MANAGER'S USE ONLY

SCACRSE SCADETL SCAPREQ
SCABASE SCARRES ACALOG Operator Initials Date

DISTRIBUTION
Original – Catalog & Curriculum Manager
Copy – Academic Unit

Florida Institute of Technology • Office of the Registrar
150 West University Boulevard, Melbourne, FL 32901-6975 • (321) 674-8114 • Fax (321) 674-7827
RGR-256-1015
REQUEST TO CHANGE THE REQUIREMENTS FOR A COURSE

Any change, addition or removal of any restriction, or change in credit hours or availability for a course requires this form, accompanied by any supporting documentation, be completed and approved as indicated below.

COLLEGE: School of Computing  DEPARTMENT: Computer Sciences Program

REQUEST IS FOR CHANGE IN COURSE: C S E 4 2 3 2  Course Title
Prefix Number Computer Network Programming

TO BE INCLUDED IN 2017/2018 CATALOG
Course changes are effective beginning with the fall term in which they appear in the University Catalog.

IS REQUEST FOR A CHANGE IN THE NAME LISTED ABOVE?  □ Yes  □ No  If yes, requested name __________________________

IS REQUEST FOR A CHANGE IN CREDITS FOR COURSE LISTED ABOVE?  □ Yes  □ No  If yes, current credits __________________ requested credits __________________

IS REQUEST TO CHANGE RESTRICTIONS FOR COURSE LISTED ABOVE?  □ Yes  □ No  If yes, please check all that apply:

- Add □ Remove □ Prerequisite □ Corequisite C S E 3231 □ and □ or
- Add □ Remove □ Prerequisite □ Corequisite
- Add □ Remove □ Other Restrictions* □ Yes  □ No  If yes, please use box below:

*Other restrictions may include changing the grade mode (P/R, S/L, A-F, EUI), deactivating a course already in the system, majors or class levels restricted from registration, or other restrictions.

Please enter the complete prerequisite/restriction list as it should appear if this change is approved:

Remove all current prerequisites (CSE 2010 or CSE 2050 or ECE 2552)

Prerequisite: CSE 3231

□ Yes  □ No  Is this request for the course to be used to measure program-level student learning outcomes?

□ Yes  □ No  Is this request for the course to satisfy the scholarly inquiry requirement? If yes, attach "Q" materials for review.

□ Yes  □ No  Will this change impact any existing programs? If yes, attach "Changing Graduation Requirements" form for each program that is impacted.

APPROVALS: Once appropriate department approvals are completed, submit to the Office of Graduate Programs, or Undergraduate Curriculum Committee Chair for placement on agenda.

1) [Signature] [Date]  2/15/2017
Originator

4) [Signature] [Date]  2/15/2017
Chair, Graduate Council

OR

2) [Signature] [Date]  2/15/2017
Department Head/Program Chair

3) [Signature] [Date]  2/15/2017
Dean or Associate Dean

5) [Signature] [Date]  2/15/2017
Chair, Undergraduate Curriculum Committee

CATALOG & CURRICULUM MANAGER'S USE ONLY

SCACRESE SCADDTL SCAPREQ

SCABASE SCARRES ACALOG Operator Initials [Date]

DISTRIBUTION
Original – Catalog & Curriculum Manager
Copy – Academic Unit
REQUEST TO CHANGE THE
REQUIREMENTS FOR A COURSE

Any change, addition or removal of any restriction, or change in credit hours or availability for a course requires this form,
accompanied by any supporting documentation, be completed and approved as indicated below.

COLLEGE  School of Computing  DEPARTMENT  Computer Sciences Program

REQUEST IS FOR CHANGE IN COURSE  C S E 4 2 5 1  Compiler Theory

Prefix  Number  Course Title

TO BE INCLUDED IN 20 17 / 20 18 CATALOG
Course changes are effective beginning with the fall term in which they appear in the University Catalog.

IS REQUEST FOR A NAME LISTED ABOVE?  □ Yes  □ No  If yes, requested name

IS REQUEST FOR A CHANGE IN CREDITS FOR COURSE LISTED ABOVE?  □ Yes  □ No  If yes, current credits requested credits

IS REQUEST TO CHANGE RESTRICTIONS FOR COURSE LISTED ABOVE?  □ Yes  □ No  If yes, please check all that apply:

☐ Add  ☐ Remove  ☐ Prerequisite  ☐ Corequisite  ECE 2552  □ and □ or

☐ Add  ☐ Remove  ☐ Prerequisite  ☐ Corequisite  ECE 3551  □ and □ or

☐ Add  ☐ Remove  ☐ Other Restrictions*  □ Yes  □ No  If yes, please use box below:

*Other restrictions may include changing the grade mode (P/E, S/U, A-E, CEO), deactivating a course already in the system, majors or class levels restricted from registration, or other restrictions.
Please enter the complete prerequisite/restriction list as it should appear if this change is approved:
Prerequisite: CSE 2010 and CSE 2120

☐ Yes  □ No  Is this request for the course to be used to measure program-level student learning outcomes?

☐ Yes  □ No  Is this request for the course to satisfy the scholarly inquiry requirement? If yes, attach "O" materials for review.

☐ Yes  □ No  Will this change impact any existing programs? If yes, attach "Changing Graduation Requirements" form for each program that is impacted.

APPROVALS: Once appropriate department approvals are completed, submit to the Office of Graduate Programs,
or Undergraduate Curriculum Committee Chair for placement on agenda.

1)  Origintator  217/217  Date

2)  Department Head/Program Chair  2/15/17  Date

3)  Dean or Associate Dean  2/15/17  Date

4)  Chair, Graduate Council  Date

OR

Chair, Undergraduate Curriculum Committee  Date

CATALOG & CURRICULUM MANAGER'S USE ONLY

SCACRSE  SCADERL  SCAPREQ  

SCABASE  SCARRES  ACALOG  Operator Initials  Date

DISTRIBUTION
Original – Catalog & Curriculum Manager
Copy – Academic Unit
TO: Undergraduate Curriculum Committee
FROM: Dr. William Allen, Program Chair, Cybersecurity and Data Sciences
CC: Dr. Marco Carvalho, Dean, School of Computing
DATE: February 17, 2017
RE: Adding a course – CSE 3702 – Introduction to Data Science

The School of Computing proposes the creation of a new course called *Introduction to Data Science*. No undergraduate course on this topic currently exists and no program is currently being affected by the creation of this course.
Florida Institute of Technology

ADDDING A NEW COURSE TO THE CURRICULUM

New courses are available beginning with the fall term in which they appear in the University Catalog.

This is a request for reactivation of a course in the system. □ Yes □ No

<table>
<thead>
<tr>
<th>SUBJECT</th>
<th>CSE</th>
<th>COURSE NO.*</th>
<th>3 7 0 2</th>
<th>CREDIT HOURS</th>
<th>3</th>
<th>ACADEMIC YEAR TO BE ADDED TO THE FILE</th>
<th>Fall 2017</th>
</tr>
</thead>
</table>

*Justify level if 1000-level+ and no co- or prerequisites

<table>
<thead>
<tr>
<th>CLASS HOURS</th>
<th>LECTURE HOURS</th>
<th>LAB HOURS</th>
<th>CONTACT HOURS (CEU ONLY)</th>
<th>N/A</th>
</tr>
</thead>
<tbody>
<tr>
<td>45/semester</td>
<td>45/semester</td>
<td>0/semester</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

DEPARTMENT | School of Computing

SCHEDULE TYPE | Lecture (A)

□ COLLEGE OF AERONAUTICS – 23
□ NATHAN M. BISK COLLEGE OF BUSINESS – 24
□ COLLEGE OF ENGINEERING – 1
□ COLLEGE OF PSYCHOLOGY AND LIBERAL ARTS – 25
□ SCHOOL OF COMPUTING – 29
□ SCHOOL OF HUMAN-CENTERED DESIGN, INNOVATION & ART – 28

COMPUTER TITLE | Intro to Data Science

This course will be entered into the system as: Bi-Level □ Cross-Listed □ Dual-Numbered □ Full-Load □ None of these/Standard Listing □

CATALOG TITLE | Introduction to Data Science

This description has been approved by the catalog office

CATALOG DESCRIPTION OF COURSE

Restricted to 350 characters, including spaces

Provides an overview of data science and its basic components (obtain, process, analyze, communicate). Covers introductory concepts of data modeling and exploration, with an overview of applications of data science.

In addition, please attach a course syllabus and/or more detailed description.

GRADES TO BE ISSUED
□ A, B, C, D, F
□ A, B, C, D, F, CEU/Audit
□ CEU
□ S, U
□ P, F
□ Other

ADDITIONAL RESTRICTION □ and □ or

(e.g., Major, Class Level, Department Head Approval)

If this course replaces a course currently offered in BANNER, please indicate old course information and the date/term the course may be removed from the system.

SUBJECT Alpha Prefix (e.g., CSE) COURSE NO. (e.g., 1301) TERM TO INACTIVATE

□ Yes □ No Will this course be used to measure program-level student learning outcomes? If yes, review and signature required.**
□ Yes □ No Will this course be used to satisfy the scholarly inquiry requirement? If yes, attach "Q" materials for review.
□ Yes □ No Will this course impact any existing programs? If yes, attach “Changing Graduation Requirements” form for each program impacted.

APPROVALS: On completion of description and course number verification, affix appropriate signatures as indicated, and submit to the Office of Graduate Programs, or Undergraduate Curriculum Committee Chair for placement on agenda.

Originator Date 2/17/2017

Department Head/Program Chair Date 2/17/2017

Dean or Associate Dean Date 2/17/2017

**Chief Academic Officer Date

CATALOG & CURRICULUM MANAGER

These changes/additions have been made for the University Catalog and entered into the BANNER term named above.

Catalog & Curriculum Manager Date

REGISTRAR'S USE ONLY

SCACSE SCPADIS SCPREQ SCABASE ACALOG
SCARRES CIP Code Operator Init. Date

Florida Institute of Technology • Office of the Registrar
150 West University Boulevard, Melbourne, FL 32901-6975 • (321) 674-8114 • Fax (321) 674-7827
RGR-257-816
CSE 3702 Introduction to Data Science, 3 Credits

Catalog Description:

Provides an overview of data science and its basic components, i.e., how to obtain, process, analyze, and communicate data. Course covers introductory concepts of data modeling and exploration, with an overview of applications of data science.

Prerequisite: MTH 2401

Textbooks:

- Rachel Schutt and Cathy O'Neil; Doing Data Science: Straight Talk from the Frontline; O'Reilly Media, Inc., 2013
- A. Rajaraman and J.D. Ullman; Mining of massive datasets; Cambridge University Press, 2011.

Topics:

- What Is Data Science? Overview of data science, applications, and tools (2 weeks)
- Statistical inference, exploratory data analysis, and the data science process (3 weeks)
- Causality (2 weeks)
- Data manipulation, at scale (MapReduce, Hadoop, relationship to databases, algorithms, extensions, languages) (4 weeks)
- Communication results: graph, text, and data analysis (3 weeks)
- Ethics in data science and next-generation data scientists (1 week)

Learning objectives:

By the end of the course, students will be able to:

- Describe the basic concepts and terminology of data science, its main application areas, and the basic skills needed by data scientists.
- Describe the data-science process.
- Perform basic statistical modeling, inference, and analysis using a programming language (e.g., Python, R).
- Use APIs and data-gathering tools to collect data from the Web and large datasets.
- Apply Exploratory Data Analysis (EDA) and the data-science process in a case study.

Exams and assignments:

Midterm exam: 30%
Final exam: 40%
Assignments: 30%

Grading Scale:

A: 90 to 100, B: 80 to 89, C: 70 to 79, D: 60 to 69, F: below 60
TO: Undergraduate Curriculum Committee
FROM: Dr. William Allen, Program Chair, Cybersecurity and Data Sciences
CC: Dr. Marco Carvalho, Dean, School of Computing
DATE: February 16, 2017
RE: Adding a course – CSE 3801 – Introduction to Cybersecurity

The School of Computing proposes the creation of a new course called *Introduction to Cybersecurity*. No undergraduate course on this topic currently exists and no program is currently being affected by the creation of this course.
## Adding a New Course to the Curriculum

This is a request for reactivation of a course in the system.  ☐ Yes  ☐ No

### New courses are available beginning with the fall term in which they appear in the University Catalog.

**SUBJECT** C SE  
**EX. COURSE NO.* 3 8 0 1**  
**CREDIT HOURS 3**  
**ACADEMIC YEAR TO BE ADDED TO THE FILE** Fall 2017  
**(e.g., Biological Sciences)**

**CLASS HOURS** 45/semester  
**LECTURE HOURS** 45/semester  
**LAB HOURS** 0/semester  
**CONTACT HOURS (CEU ONLY)** N/A

**DEPARTMENT** School of Computing  
**SCHEDULE TYPE** Lecture (A)  
**(e.g., Lecture, Lab or Special Topics/Project)**

☐ COLLEGE OF AERONAUTICS – 23  
☐ NATHAN M. BISK COLLEGE OF BUSINESS – 24  
☐ COLLEGE OF ENGINEERING – 1  
☐ COLLEGE OF PSYCHOLOGY AND LIBERAL ARTS – 25  
☐ COLLEGE OF SCIENCE – 26  
☐ EXTENDED STUDIES/NMB COLLEGE OF BUSINESS – 90  
☐ SCHOOL OF COMPUTING – 29  
☐ SCHOOL OF HUMAN-CENTERED DESIGN, INNOVATION & ART – 28

**COMPUTER TITLE** Intro to Cybersecurity

This course will be entered into the system as:  
- Bi-Level ☐ Cross-Listed ☐ Dual-Numbered ☐ Full-Load ☐ None of these/Standard Listing ☐

**CATALOG TITLE** Introduction to Cybersecurity

**CATALOG DESCRIPTION OF COURSE** Restricted to 330 characters, including spaces


This description has been approved by the catalog office  
*Emery 2/17/2017*  
**Catalog & Curriculum Manager**

**In addition, please attach a course syllabus and/or more detailed description.**

**GRADES TO BE ISSUED**  
- A, B, C, D, F  
- A, B, C, D, F, CEU/Audit  
- CEU  
- S, U  
- P, F  
- Other

**ADDITIONAL RESTRICTION** ☐  
- (e.g., Major, Class Level, Department Head Approval)

If this course replaces a course currently offered in BANNER, please indicate old course information and the date/term the course may be removed from the system.

**SUBJECT** Alpha Prefix (e.g., CSE)  
**EX. COURSE NO. (e.g., 1301)**

**TERM TO INACTIVATE**

☐ Yes ☐ No Will this course be used to measure program-level student learning outcomes? If yes, review and signature required.**

☐ Yes ☐ No Will this course be used to satisfy the scholarly inquiry requirement? If yes, attach "Q" materials for review.

☐ Yes ☐ No Will this course impact any existing programs? If yes, attach "Changing Graduation Requirements" form for each program impacted.

**APPROVALS:** On completion of description and course number verification, affix appropriate signatures as indicated, and submit to the Office of Graduate Programs, or Undergraduate Curriculum Committee Chair for placement on agenda.

**Originator** 2/17/2017  
**Chair, Graduate Council** Date

**Department Head/Program Chair** 2/17/2017  
**Chair, Undergraduate Curriculum Committee** Date

**Dean or Associate Dean** 2/17/2017  
**Chief Academic Officer** Date

---

**CATALOG & CURRICULUM MANAGER**

These changes/additions have been made for the University Catalog and entered into the BANNER term named above.

**REGISTRAR'S USE ONLY**

SCACRS  SACREDL  SCAPEQ  SCABASE  ACALOG  
SCARRS  CIP Code  Operator Init. Date

**Catalog & Curriculum Manager**

Florida Institute of Technology • Office of the Registrar

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

RGR-297-815
CSE 3801 – Introduction to Cybersecurity (3 credits)

Course Information:


Textbook:


Prerequisite: CSE 2010, Algorithms and Data Structures

Expected Outcomes: By the end of the course, students will have knowledge of the terminology and fundamental principles of computer and information security.

More specifically, they will be prepared to:

- List the fundamental concepts of the Information Assurance / Cyber Defense discipline.
- Describe different types of attacks and their characteristics and explain common cyber defense tools, methods and components that can be used to repel or mitigate attacks.
- Analyze common security failures and identify the specific design principles that have been violated.
- Understand the interaction between security and system usability and the importance of minimizing the impact of security mechanisms on usability.
- Identify the elements of a cryptographic system and describe which cryptographic protocols, tools and techniques are appropriate for a given situation.
- Examine the architecture of a typical, complex system and identify significant vulnerabilities, risks, and points at which specific security technologies/methods should be employed.

Course Topics:

- Security principles and practices (2 weeks)
- Threats, risks and vulnerabilities related to data privacy and computers (3 weeks)
- User authentication and access control for computers and files (3 weeks)
- Encryption of files and network data (2 weeks)
- Security in enterprise-level computing (2 weeks)
- Security issues related to email, networks and the World Wide Web (3 weeks)
Grading Policy:

- Assignments: 45%
- Classroom and online participation: 5%
- Midterm Exam: 25%
- Final Exam: 25%

Grading Scale:
A: 90 to 100, B: 80 to 89, C: 70 to 79, D: 60 to 69, F: below 60

Bibliography:

- Bishop, Matt, Computer Security: Art and Science, Addison-Wesley, 2002