



The Insider Course Report – Fall 2019

Welcome to a new semester! In this newsletter, we discuss some of our ongoing courses and describe some new courses. Read through the newsletter – and feel free to explore courses not necessarily in your immediate area. Technology is continually changing and moving in new directions! And don't forget to attend one of the many online advising sessions we have scheduled.

To highlight some new courses: We also have exciting events planned, so check out the event listing on the MBS web site (<http://mbs.rutgers.edu>).

And now for the courses --

Business Core & Elective Courses:

Finance & Accounting 16:137:530

Communication & Leadership 16:137:502

Marketing:

- Market Assessment for Bus & Sci 16:137:507
- MiniMBA marketing courses

Ethics 16:137:500

Capstone 16:137:600

Electives

- Online Project Management 16:137:601 - 17627
- Project Management 22:799:691 -09737, 18201
- Externships, Topics in Management
- and others... See Text.

As is the case every semester, all of the core business courses are running. *Principles of Finance & Accounting* is running only online this semester (there will be in-person classes in the Spring). This is a general course combining both finance and accounting. It is a great first business course for new students and information you need to know that will last a lifetime. The very popular *Communication & Leadership* is running on Mondays (Monday day session for full time students, and a Monday evening session for students that work during the day). This is a great class to take when you are beginning to think of making a career move or moving up in your current position. As part of this class, students will be interviewing leaders in their field or just professionals that they want to impress and meet

(think CEO). *Take advantage of this opportunity – make the most of your interviews to further your career - and make sure you give yourself enough time to make those connections.* If you are thinking of taking this course in the fall, start lining up those interview subjects. **This is an opportunity to make a major and lasting impact on your professional future!**

Market Assessment for Business & Science is running Wednesday evening and online. There are two versions of this course – this means that the extra topics will have a theme. The fall is a general course but includes online marketing, digital marketing, and social media marketing. The spring has a life-science focus. However, students can take either option. This course has a class trip to Ikea associated with it to see marketing in practice (Read about the trip [here](#) or [here](#).) Online students are also welcome to join us for the trip or just go to your local store. Students also have the option to take any of Mini-MBA marketing courses (16:137:650 *Topics in Management and Professional Development* see sidebar). The Mini-MBA is a

popular series of courses given by the Executive Education division of the Rutgers Business School. The Mini-MBA courses can be used in place of a marketing course (if you take a mini-MBA marketing), or can be used as a business elective. ***Please note: for students taking the Mini-MBA marketing, you will be required to learn some more about marketing research methodology on your own in order to complete the capstone course.*** The 1 credit ***Ethics*** course is also offered this semester – it is an online course but sometimes has a guest lecture on a hot topic (Spring 2019 lecture– Ethics & Self Driving Cars). Finally, the ***Capstone course*** is also offered on Thursday evenings (and online - for those in the online program only). Before taking capstone, please make sure to have taken the finance, leadership & marketing courses. The capstone course is your master's thesis – it requires quite a bit of work so plan accordingly the semester you take it. Remember – in the capstone course you will be doing a presentation in front of our distinguished guest judges. *The final presentation is also open to all students in the program.* We encourage you to come to see what it is all about. Check the events listing on the mbs.rutgers.edu website for the date & time.

In-Person, Hybrid, Distance-learning, Online – what is the difference?

An **in-person class** is a regular class meeting usually once a week in the evening. Many of our classes have a **distance-learning** option, where the professor will broadcast the lecture for those that are not local or for students who are fully online. **Hybrid classes** are a mixture of regular in-person sessions and online sessions. These courses generally broadcast the in-person sessions.

Online classes are fully online. They could be synchronous, i.e., include a weekly webinar, or asynchronous.

*Many of our classes have an **experiential component** (guest lecture, etc) which may include a class trip. Even online students can partake of these trips. For those that can't attend, an alternative is usually offered.*

BUSINESS ELECTIVES – You can take any business electives that will help in your career advancement. How to choose? Look at job postings to see what skills are listed. Please also refer to our labor blogs (we use tools like Burning Glass and EMSI to get these lists). Some of the popular electives are described here:

This semester there are two project management courses to choose from – online and in-person. Online: **Special Topics: Project Management** (16:137:601 17627) – this course will include materials from PMI (pmi.org) and some case studies. In-Person: **Project Management** (22:799:691 -09737, 18201 NB) – Tuesday and Wednesday evenings. This is a business-school special section open to students without any prerequisites – *please type in the index number to register. Why Project Management?* When we did an analysis of most of the scientific job postings guess which skill always made it to the top? Almost all scientific careers require project management. Another popular business elective being offered is **Negotiation (38:578:505)**, which is offered by the School of Management and Labor Relations. Students can take a **professional internship** or **research internship** or **externship** as either a business or science elective. The internship course has an online component that is taught by Kathleen Cashman (our very own executive

All MBS students can take Executive Education courses for credit. These include the **Mini-MBA** courses and **RIE** (rie.rutgers.edu) – customer experience management, cybersecurity, or CCPD courses (online training – web, certified ethical hacker, six sigma, etc). Register for the correct section of 16:137:650 and then fill out the online form. [Please see the instructions at mbs.rutgers.edu/topics-management](http://mbs.rutgers.edu/topics-management)

coach) as advanced leadership & communication. (See the sidenote about internships.) What is the *Externship Exchange?* Companies come to us with problems and we set up groups of students to solve them. We are currently working with a number of companies – [go to our web site to check it out](#) (or contact Dr. Christie Nelson)! You can get credit for the project or just do it for experience (as “club”). ***This is available to students in all concentrations and even working students (the only caveat – you usually can’t do a project for a competing company).***

DATA, DATA, DATA –One of the most popular TED talks is entitled, [The best stats you've ever seen](#), by Hans Rosling. This talk has over 12 million views. “In Hans Rosling’s hands, data sings. Global trends in health and economics come to vivid life. And the big picture of global development—with some surprisingly good news—snaps into sharp focus.” (Fun Fact – Hans Rosling is the author of “Factfulness”, a book Bill Gates has called ‘one of the most important books’ he’s ever read.) --- Want to learn how to create those types of visualizations? The course, **16:137:553 *Business Intelligence with Visual Analytics*** goes through many of the basics of information presentation and visualization, statistics presentation, and business intelligence. In addition, the course utilizes [Tableau](#) (recently in the news for its acquisition for \$15.7B by Salesforce). This course is a must for those in Analytics and Data Science and Engineering Management, and a great elective for any concentration (it can count as a business elective). Today data is everywhere and every company wants employees (especially would-be executives!) to be able to analyze, understand, and present it.

And of course, there are many other business/professional courses being offered on campus. ***If you find a course that you have the prerequisites for – go for it!***

And now for the science courses –

Life Sciences:

For those interested in learning about the science in the cosmetic/personal care industry, the popular ***Fundamentals of Personal Care Science*** (16:137:570) is being offered Monday evenings. This course is also great as an elective for students in Biotechnology, Drug Discovery, Food Science and Chemistry. The Personal Care industry is a significant industry in NJ with companies such as J&J, Revlon, Colgate Palmolive, and Chanel all located relatively close to Rutgers (see [here for a writeup](#) of the personal care industry). The course is taught by a professional from Presperse with guest lecturers from other companies. It will also include a lab trip. Another personal care offering is our new course in ***Fragrance Applications*** (16:137:603) on Wednesday evening. It is a great class for those in personal care and those in food science and covers everything you wanted to know about fragrances and smell! For those taking the Fragrance course online – make sure you get the “fragrance” lab-kit.

Our core biotechnology course is ***Concepts in Biotech/Genomics*** (16:137:615) is scheduled on Wednesday evenings – this course covers the latest techniques in biotechnology and how they are used in industry. Very relevant material covering the latest and greatest in biotech! It is a great elective for those in Drug Discovery, Agriculture, Food Science, Personal Care Science and Chemistry.

Want to understand how a drug goes from the concept (test-tube phase) to market? Then ***Drug Discovery from Concept to Market*** (16:137:510) is the course for you. Understanding what happens in the pharmaceutical industry and hearing from professionals in the field from the various (and many) companies

in the area is a hallmark of this course. *This is also a great course for those in analytics or engineering management and who are working in the Pharma industry.* The **Clinical Trial Design** (16:137:580) is also running this semester (and has a distance learning option). The **Generics Reg in US** (16:137:585), which is a follow-up to the regulatory affairs course, is an online course. This class is taught by the very popular Prof. Chand Sishta.

Interested in Sustainability & Energy? **Fundamentals of Sustainability -The practitioner Perspective, from Concepts to Transactions** (16:137:554, Thursday evenings) is a key course for sustainability and engineering management and great for anyone interested in learning more about sustainability, energy services and alternate energy solutions. This course is being taught by Ed Linky who is a Senior Energy Policy Advisor at the EPA. *There will be a panel on wind farms during this class – a hot topic as NJ may be one of the first states....* There is a new course this semester from the business school that is open to all MBS students (but is especially relevant for sustainability), and that course is **Corporate Social innovation** (22:620:590, Monday evenings, Newark) – this course provides a foundation to begin to prepare the next generation of business leaders to integrate social innovation, sustainability, and shared value creation into the core of their operations, culture, and intrapreneurial ventures. FOR THIS COURSE ONLY – to get an SPN, please send email to Prof. Barnett (mbarnett@business.rutgers.edu).

What are the two highest paying fields according to the Wall Street Journal? Biotech & Energy! Take one of the classes above in these great fields. (Check out this article: <https://www.wsj.com/articles/best-paying-industry-its-not-banking-1527240601>).

Concepts in Global Agriculture (16:137:576) is a foundation course in global agriculture, important for food science & technology, sustainability and biotech. This course is being taught by Prof. Robson and will include many aspects for the agri/bio marketplace.

Regulatory and Standards for Foods and Cosmetics (16:137:577): This is an online course taught by 2 attorneys who are experts in regulatory for food and cosmetics. Definitely a worthwhile course for the Food Science, Personal Care, and the Global Food Technology concentrations. *Also appropriate for anyone who is working in Quality for a cosmetic/food company.* This is a hot area in the global marketplace for Food & Cosmetics!

New Courses

→**Food and Natural Chemistry (online, 16:137:603 Special Topics)**– this is a basic chemistry course for Global Food Technology (and also for personal care science) for those that have not taken undergraduate applied chemistry for these areas (organic chemistry I is a prerequisite) or as a review for those that took it a while ago...

→**Food Safety and Plant Operations (online 16:137:602 Special Topics)**– this is an exciting new course covering the basic of food plant operations and includes a HAACP.. The course is taught by the US expert in this field and includes a certification for the USDA.

Engineering & Computer/Inf. Systems:

Do you have an idea for an app (whether you are in Kinesiology or Food Science) and want to try your hand at development? The **Mobile App Development From Concept to Market** (16:137:537) course may be for

you. While you need to have some familiarity with programming, there are special considerations given for those without programming knowledge but with great ideas. The objective of this course is to introduce the fundamentals of mobile app development, but more importantly provide the student with a complete top down overview of the mobile application marketplace and the opportunities that exist (and you get to design and implement your own app). This is a great course for those interested in IoT(Internet of Things) as the course goes over sensors and applications.

We also have – *Fundamentals of Systems Engineering for Engineering Management* (16:137:560). This course covers the design requirements of putting together a big project, a great course if you are interested in business analyst (BA role), systems engineering, UX, engineering management, software engineering, software management, cybersecurity, product management or IT management. [For information on job opportunities as a Business Analyst, see here.](#) While some IT background is necessary, it is not too tech heavy and a perfect course for anyone who will eventually have to lead an IT project (even from the business perspective) or is part of a technology team (like UXD). Since all science-based industries today require software, understanding how to put together software systems is crucial.

One of our most highly related courses is *Introduction to User eXperience Design (UXD)* (16:137:531)– how to design interfaces that are intuitive and easy to use. This course is taught in executive-style: one week intensive lectures (boot-camp) with extra weekend lectures. This is a “mind-changing” course emphasizing how to understand the user/stakeholder in designing modern interfaces and products. It is a great course for anyone in the IT or Analytics field and a must for those interested in product management. *See our blog about careers in Product Management.*

Fundamentals of Analytics - 16:137:550, a very hot topic today covering fundamentals of data mining, analytics, machine learning and data sciences. *Please note, for the analytics course you must have at least one course in statistics and one in programming as prerequisites.*

Please note: Advanced Analytics & Practicum (16:137:551) – has moved to the Fall. Please adjust your schedules accordingly.

For those that want to take a basic programming course in python, the *Python Methodologies for Data Science* (16:137:552) course is available. This is a very popular hybrid course (taught every semester by “big lars”) with mostly online lectures and some in person labs (these can be done online as well). This is suitable for every concentration – even if you have not programmed before. This is also a great course for those interested in bio-informatics and/or big data in drug discovery & healthcare. For those ready for a more advanced class, check out–*Big Data Algorithms* 56:198:562 (streamed to New Brunswick), it will be covering

Internship/Special Problems – what is it?

We have three options for getting credit for doing internship or research projects, and they are:

16:137:605 *Special Problems*

16:137:611 *Research Internship*

16:137:608 *Professional Internship*

If you are doing a large project with a professor, please register for research internship. If you are working for an outside company, please use [Professional Internship](#). In both cases, you will be part of a class (we will be contacting your supervisor for the final grade and to make sure you did a good job). You will also be required to do a presentation. The Special problems class is to be used for other types of projects (e.g., if you participated in **externship**).

algorithms in data mining and machine learning and especially how it relates to big data. And don't forget the **Business Intelligence with Visual Analytics** (discussed above).

All of these courses are basic courses appropriate for anyone with an IT/UXD/Engineering concentration and fundamental enough for anyone with a science/engineering background.

Want to know some of the most popular (non 16:137) science courses for MBS students? They are:
(* **see sidebar about special permission numbers)

Regression Analysis (16:960:583) – required for analytics! This course is offered every semester (and summer), but needs a prerequisite basic stat class. *For those that want online courses, the online version of Regression is given by MBS in the spring (with a 16:137 listing).*

Bioinformatics (16:765:585) – a basic course in bioinformatics and super-important for those in biotech & drug discovery. For those that are interested in bioinformatics, python is the language of choice. Check out the Fundamentals of Python course!

Quality Management (16:540:580)– this is a course offered by Industrial Engineering and covers the basics of quality and reliability. Appropriate for all engineering, especially engineering management, and those working in the life sciences and bio/pharma area (biotech, drug discovery & development, personal care, food science). *Quality Management is a popular area for many jobs in the NY/NJ area. This is a basic course appropriate for most of the concentrations. ***This course is going online, stay tuned for more information.....*

Sneak Peek at the Winter 2020 Design Courses (so far, stay tuned...)–

- **Visual Design for UXD** – a winter session covering visual design, for all of you tech artists!
- **3D Bio Printing** – a hands-on “wet-lab” course – the latest and greatest!

PLEASE CHECK OUR EVENT LISTING!!! There are different types of events getting scheduled. These include:

- Technical Workshops – these are concentrated in teaching you about the latest in technology and are open to everyone! Want to learn SAS, STATA, R? Attend the workshops!
- Panel Discussion – these are usually around a concentration and our panelists are leaders in the field. Learn about career opportunities.
- Skill-Building Workshop(s) – want to hone your negotiation or networking skills? Look for the career workshops & networking opportunities and come to our career lunches!
- And most important – **Parties (aka networking events)**- mark your calendar for our spectacular Holiday Party at the Rutgers Club– in our unbiased opinion - it is the best 😊

SPN - Special Permission Number: Many graduate courses require special permission numbers to check on prerequisites. Please read the following on who to contact about getting special permission numbers
<http://mbs.rutgers.edu/special-permission-number-request>

Note:if you are interested in business courses, you must go through our office to get a special permission number. The form is on the web site above.

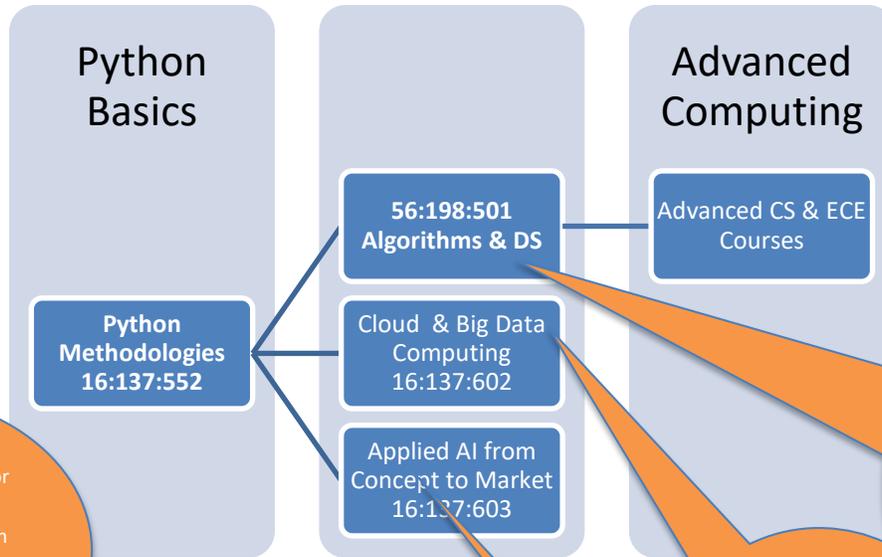
Insider Report: Focus on Skills & Computing:

Interested in taking courses that cover the latest “hot” technology skills? See our blog on what LinkedIn lists as the most popular skills and how this maps to courses: <https://mbs.rutgers.edu/articles/courses-provide-skills-companies-need-most-2018>

Do you want to learn more about computing?

You may have read or heard that the computing field is hot today. Yes, all of the companies do seem to want to hire students who know “computing/computer science/analytical computing”. Whether that will be the trend in the future, we will have to wait and see. However, we do know that computers are not going away and having knowledge of technology is helpful for everyone. What does that mean? – You need to understand technology, how it works, how to configure it for your uses, and how to be comfortable getting your hands “dirty” with installing/scripting/programming. How do you learn that? One way is to increase your knowledge of programming. Below is a helpful guide to taking computing graduate courses in Python (the courses below assume you do not have an undergraduate background). And all of these courses count as technical electives!

Guide: Start with the python methodologies course (if you have programming, this course can be skipped and you can learn python on your own). If you can take one other – take the database course (17:610:557 - it can be used as a business elective as it is equivalent to business data management). To become a software specialists/ coder take: Python Methodologies, then Data Structures, & Software Engineering. Then code away. As an aside – the algorithms and data structures course (not to be confused with databases) is usually a key course for passing any online coding exams. Data structures is used for the tricky questions – so if you are starting out in data science or programming, the data structures course is crucial for landing that coveted job! (The course listed below, 56:198:501 covers data structures in python.) Interested in starting your own web-based business: take UXD, Mobile App, and/or Systems Engineering. Are you already a coder? Skip to the advanced courses – and don’t forget to take UXD & Systems Engineering – learn to create applications that stand out from the crowd! Need to learn about AI? – take the Applied AI course (prereq – intro python). *The UXD is also a great course for anyone interested in Product Design and Product Management (for Computer and Life Sciences!).*



The UXD is a great course for anyone who deals with customers or is interested in designing any product with the customer in mind.

Key course to pass those data structures interview questions!!!! It covers algorithms and data structures in python and is online.

This cloud computing course only has one prereq but does require a considerable amount of programming .
Skills: **Hadoop, Spark**

General Information Technology Courses

- User Experience Design
- Database
- Mobile App Development from Concept to Market
- Systems Engineering
- Business Intelligence using Visual Analytics

These courses can be taken without an explicit programming course –but you must have some sort of Inf. Technology background. This course covers **SQL** – one of the most popular skills for all

EVERYTHING IS AI Today! It is an applied course – you only need intro to python. A must for all fields!

Systems Engr is the requirements part of Software Engineering.
Mobile App Development will teach some programming, but good applications are welcome as projects

This class teaches **Tableau** – a very hot technology program!