CSIT 291: Node.js Development

Spring 2017

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| Instructor | Professor Stephen Raghunath |
| Office Location | 2155 |
| Phone | 673-4961 |
| E-mail | [raghunat@fredonia.edu](mailto:raghunat@fredonia.edu) |
| Office Hours | T/TH 5-7pm |
| Course Place | 2164 |
| Course Time | T/TH 12:30pm-1:50pm |
| Skype | stephen.raghunath |

1. Catalog description:

CSIT 291 is a special topics course and does not have a set course catalog description. The course description for Web Development with Node.JS is as follows:

Node.js is a platform built on Chrome's JavaScript runtime for building fast, scalable network applications. Node.js uses an event-driven, non-blocking I/O model that makes it lightweight and efficient. Fundamental JavaScript, version control using Git, unit testing, and basic architectural design patterns will be taught throughout the course in a team project learning format. Students will build items from web pages to real time chat applications throughout the course.

Credits: 3

Frequency: Occasion

2. Prerequisites:

Strongly Recommended: CSIT 221 – Computer Science 2, CSIT 107

**3.** Course Textbook:

None

4. Learning Goal(s):

This course is an introduction to Node.JS application development. It covers the basic principles of effective Node application design with a strong focus on hands-on lab practices and projects where the principles of concept, design, coding, and testing will be explored. This course satisfies the following goals for student learning:

1. Demonstrate core knowledge of computing/information technology and demonstrate robust programming skills.
2. Be familiar with the computer organization and system software
3. Be able to analyze a real-life problem, identify and define computing requirements for its solution, and use appropriate software to solve it.

Learning goals will be achieved through covering a number of topics as listed in the course outline.

5. Objectives:

* To gain an understanding of the JS programming language
* To gain an understanding of effective GUI design for JS programs
* To gain experience developing JS programs, in an object oriented pattern
* To gain an understanding of the use of elementary design patterns in JS
* To understand the basic principles of the Node framework
* To understand the basic principles of the NPM system
* To understand the basic principles of Git
* To gain experience working on a university level application

6. Course Structure:

* Lectures
* Problem solving
* Team Development

7. CCC: This course does not meet any CCC requirements.

8. Course Schedule: Is

|  |  |
| --- | --- |
| Week 1 | Intro to JS and Node |
| Week 2 | Running Node Scripts and Modules |
| Week 3 | Modules Continued |
| Week 4 | Git/NPM |
| Week 5 | NPM/Express |
| Week 6 | Express Continued |
| Week 7 | Redis |
| Weeks 8 | Mongo |
| Week 9 | Events |
| Week 10 | Development / Unit Testing |
| Weeks 11-12 | Deployment / Unit Testing |
| Week 13 | Development |
| Weeks 14-15 | Development |

9. Exams, Quizzes and Projects: All exams and projects must be taken on the date scheduled or submitted by the due date. Failure to do so will result in a zero score for that exam, quiz, or project. An exam, quiz, or project missed due to absence cannot be made up unless prior arrangements with the instructor have been made 24 hours prior to the scheduled date. The arrangements should be validated with a written excuse note from the proper authority and will be required before a makeup is considered.

10. Grading:

Regular homework assignments are essential develop an understanding of programming languages. There will be an exceptionally high number of assignments for this course, although many assignments only consist of one or two questions.

The instructor recognizes that many computer science students choose to submit their assignments at non-traditional times. Thus, while all assignments have a listed due-date and it is assumed that students will submit their assignments by midnight of that date, drop-boxes for assignments will stay open until 12:00am the following morning.

Late assignments will not be accepted unless the student requests an extension more than 24 hours in advance or in the event of properly documented extreme circumstances, as set out by university policy. Extensions will be granted on a case by case basis by the instructor.

The mid-term exam and the final exam must be taken at the appropriate time, as described by the instructor. The final exam will be given at the time specified by the registrar’s office during the final exam week. Students must contact the instructor more than 24 hours in advance if they need to make up the exam at some other time. Make-ups will be granted on a case by case basis or in the case of properly documented extreme circumstances, as set out by university policy.

The relative weight of each component of your grade is shown on the table below.

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| --- | --- |
| Component | Percentage |
| Homework | 30% |
| Team Work | 15% |
| Mid-term Exam | 20% |
| Final Exam | 20% |
| Final Project | 15% |
| Total | 100% |

The table below lists student’s grade for a given percentage achieved.

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| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 94.00  To  100 | 90.00  To  93.99 | 88.00  To  89.00 | 83.00  To  87.99 | 80.00  To  82.99 | 78.00  To  79.99 | 73.00  To  77.99 | 70.00  To  72.99 | 68.00  To  69.99 | 63.00  To  67.99 | 60.00  To  62.99 | 59.99  To  0.00 |
| A | A- | B+ | B | B- | C+ | C | C- | D+ | D | D- | F |

11. Class Attendance: Attendance is limited to 2 unexcused absences

12. Academic Honesty: University policies for academic honesty will be applied.

13.[Click here for the Academic Calendar of the current semester](http://www.fredonia.edu/calendars/academic_calendar.asp)

15. Required Materials:None.

16. Classroom and Lab Procedures:

1. Textbooks do not need to be brought to each class. Take time to read the required text.
2. Cell phones: The instructor expects students to behave maturely with cell phones. Please put your cell phones on silent at the beginning of class and do not check them. The instructor reserves the right to penalize students if cell-phone use becomes a problem.

Laptops: Laptops should be used only for the work directly related to the course.

1. The Learning Center, located on the 4th Floor of Reed Library ([www.fredonia.edu/tlc/](http://www.fredonia.edu/tlc/)), is a place where the students can receive friendly tutoring and confidential support for their learning needs. At the Learning Center, the students will also find support if they have a learning disability, help if English is not their native language, as well as supplemental instruction opportunities for challenging courses.

Note: This syllabus is subject to change at the discretion of instructor.