



## **Section 2. DNA sequencing and other technologies.**

cDNA cloning.

Fosmids, BACs and YACs.

Sanger DNA sequencing.

Sequencing strategies

Next-gen sequencing.

DNA amplification and genome walking.

## **Section 3. Elements of genetic circuits.**

Natural and synthetic promoters; attenuation and termination.

Codon usage, Operons, RBSs and their relevance to biotechnology

sRNA and ribolocks.

Hybrid systems.

## **Section 4. DNA and Genomic Assembly**

Biobricks and Golden Gate

In vitro genome assembly methods (F-PCR, Gibson, SLIC, Pox)

In vivo genome assembly methods (red-gam/ TAR)

Approaches to Bacterial Genome Engineering

Bacterial Genome Assembly.

*Sidebar: Counter-selection (a “side-bar” means an extra bit of information that is examinable for the concepts; e.g. what is counter-selection and how you use it, 1 example; but NOT the list of counter-selection genes.)*

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6.

# September 2015

August 2015		~ September 2015 ~					Oct 2015
Sun	Mon	Tue	Wed	Thu	Fri	Sat	
	Note: ECS 104 is our "main" room. ECS 128 is "breakout" room for group meetings.		<b>1</b>				
			<b>2</b> On Day 1 get your group together and figure out how you will communicate,				

September 2015

~ October 2015 ~

Nov 2015

**Sun**

**Mon**

**Tue**

**Wed**

**Thu**

**Fri**

# November 2015

This is a blank and printable November Calendar. Courtesy of WinCalendar.com



# December 2015

This is a blank and printable December Calendar. From WinCalendar.com

November 2015		~ December 2015 ~					Jan 2016
Sun	Mon	Tue	Wed	Thu	Fri	Sat	
		<b>1-22</b> Groups 1, 2 and 3 present.	<b>2</b>	<b>3</b>	<b>4-23</b> <b>Last day of classes.</b> Groups 3, 4 and 5 present. All abstracts due via e-mail. Send as Word/Word-like documents, NOT PDF.	<b>5</b>	
<b>6</b>	<b>7</b>	<b>8</b>	<b>9</b>	<b>10</b>	<b>11</b>	<b>12</b>	



### **Marking scheme for the group project and presentation.**

I will combine my evaluations for group participation, slide preparations and for the written abstract to generate the “presentation grade.” I will start by assigning everyone a grade of 80%. I will then look at all of the components and ask if a student’s performance pushes them above or below the 80% mark. For most students their score will not stray from the 80% very much; it’s the presumed class average for this section of the course. However, one would certainly not want to do a half-hearted job on any of these parts of the course and throw out some percentage points.

For the presentation I want everyone to contribute 2-3 slides to the final, edited presentation. Indicate your work by putting your initials in the “invisible” comment section of Power Point-like slides. Often there will be a set of 2 or more initials of students and that is fine. Also, towards the end of the course I will hand out a comment sheet to each member of a group and ask that they write positive comments about especially good group participants. This is one of the ways that I will be alerted to the efforts of some students who generously contribute to the group outside of the classroom.

A group is allowed to make their presentation into a video using something like Camtasia Studio. The group would show this video during their presentation time. This can work well for groups that do not have people who enjoy